NOVEMBER 30, 1940

Railway Age

Founded in 1856

Transportation Library

DEC 3 1940

WROUGHT IRON
Protects
4 Danger Points
in this Bridge

REENS · RAILINGS · DECK DRAINS • DOWNSPOUTS

Elevation of the Pennsylvania-Reading Seashore Line through Absecon, N.J., required construction of 6 bridges: 5 over streets and 1 over a stream. The engineers, selecting materials by balancing service life against service conditions, specified wrought iron for spots where severe corrosive attack was anticipated. The pictures illustrate where Wrought Iron was used.

1. The ornamental wrought iron railing on a street crossing near the station. The bottom plate is 11½" x ¼" wrought iron.

2. The three-line wrought iron pipe hand-railing. The wrought iron screen prevents ballast from falling into the street.

2a. A close-up of the screen. This screen, fabricated from wrought iron, actually cost *less* than wire screen with channel frame.

3. Wrought iron hand-railing in the station stairway, and a 4" wrought iron downspout.

4. The bridge-deck drain, fabricated from wrought iron plates and bars. One drain is located under center line of each track, to carry track drainage outside the street limits.

Also used, but not illustrated, was additional deck drain, used underneath the ballast. It was fabricated by cutting 6" pipe longitudinally.

TRANSPORTATION LIBRARY

Railroads are using wrought iron for dozens of corrosive jobs, basing selections on the demonstrated superior service of wrought iron exposed to corrosive atmospheres, locomotive blasts, and polluted waters. Our bulletin, "Wrought Iron in Bridge Construction," contains a lot of helpful information on these various applications. Ask for a copy.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS GENUINE WROUGHT IRON

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STEEL TUBULAR PRODUCTS

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SCIENCE DEMONSTRATES

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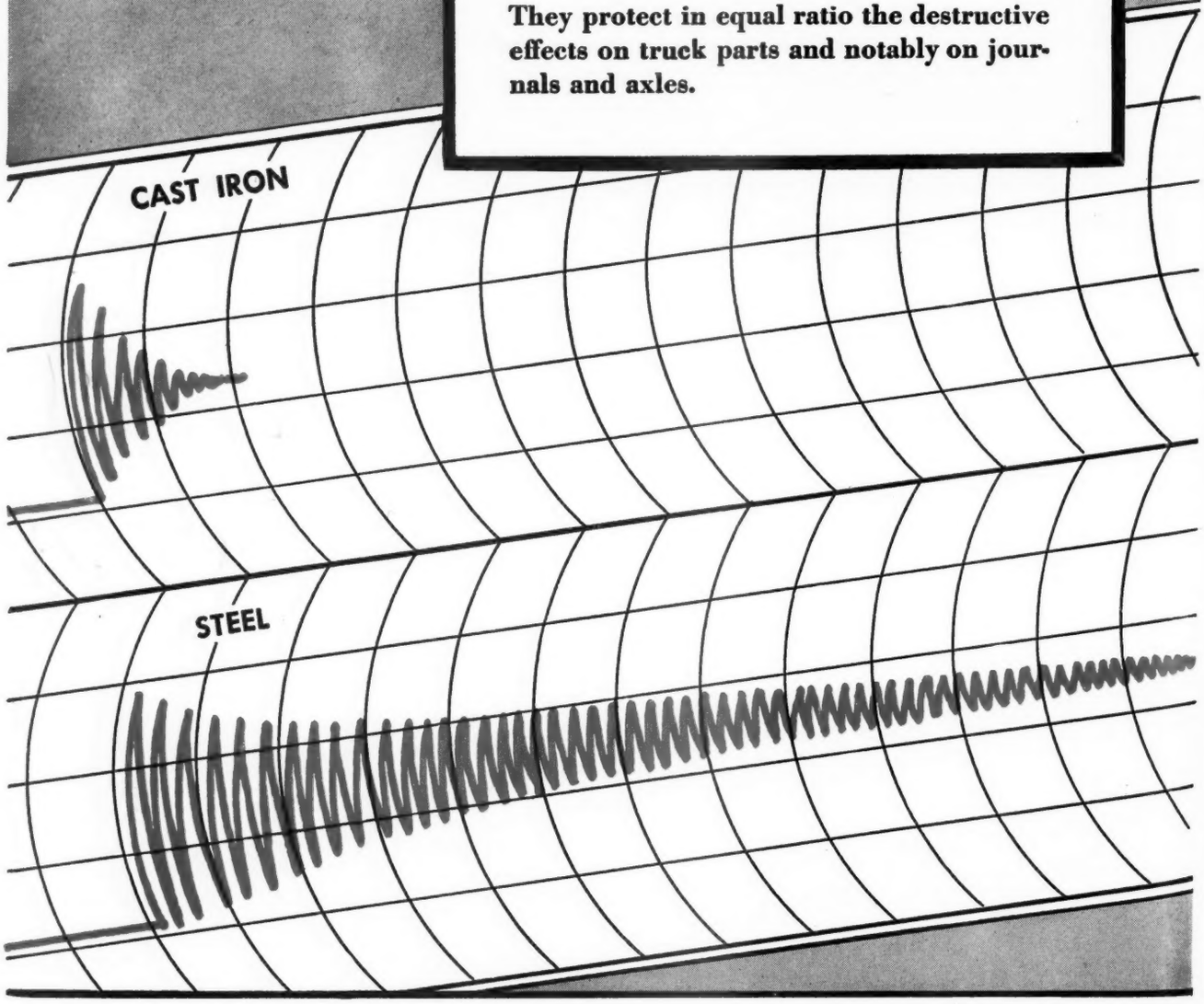
WITH CHILLED IRON WHEELS WHY WORRY ABOUT REDUCING UNSPRUNG WEIGHT

They protect in equal ratio the destructive effects on truck parts and notably on journals and axles.



ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

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NEW YORK, N. Y.

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Labor Policy: Employees and Supervisory Officers

Just prior to the election we received an anonymous letter from a man who said he had been a reader of *Railway Age* "for many years," and who made an elaborate and skillful attack on our editorial policies, particularly with regard to the wages of railway labor and to the national political campaign. It is not the practice of reputable persons to write anonymous letters or of reputable publications to publish them, and we put a note in our November 2 issue, page 649, in which we offered to reply to this correspondent if he would inform us how we might do so. Having heard no further from him, we have decided to comment on his letter anyway, because of the interesting views expressed by him.

This anonymous writer (apparently a supervisory officer) asserted he was not a member of a labor organization, but contended that wage increases secured by the unions for men in the ranks had forced parallel increases for the supervisory staff. "My wages," he said, "like those of every trainmaster, road foreman of engines, superintendent and all other operating officials have been raised by the railway unions." He accused this paper of having been a "consistent enemy of railroad labor,"—and, incidentally, no doubt of supervisory officers—saying that we have sided with railroad owners continually, and have been more unfriendly to railway labor, even, than railway managements, "who were appointed by the owners to represent the owners."

Selfishness Is No Substitute for Facts

It will be observed that our correspondent bases his defense of the unions solely on the ground that their policy has raised the pay not only of their members but also of himself and other supervisory officers. Obviously, this is an entirely selfish view which disregards all the effects of the advances in pay excepting their advantages—perhaps temporary—to those receiving them. It is a little hard to understand how anybody whose own statements convict him of basing his views regarding questions of policy affecting millions of people on **purely selfish considerations** can have the presumption to criticize the views expressed by anybody else, no matter what the reason given for them.

The *Railway Age's* editorial policy regarding labor matters has been premised on what we believe to be certain **facts** that are conclusively demonstrated by the experience of the railway industry, and on certain **conclusions** which—logically, we believe—we have drawn from those **facts.** We are aware that our editorial policy regarding labor has been criticized, not only by labor leaders, but by some railway officers; but nobody has as yet tried to show by evidence that the **facts** are not as we have stated them or that our inferences from them are not logical. We shall continue to believe that our editorial policy regarding labor matters is sound as long as this continues to be the case.

Railway Wages Are Determined by Economic Law

Among the **facts** upon which our labor policy has been, and still is, based are the following: (1) The gross earnings of the railways are determined almost entirely by the condition of general business and the amount and kind of outside competition to which they are subjected. (2) The amount that the railways can contribute toward the welfare of those deriving income or receiving business from them depends upon the amount of gross earnings they make. These recipients of income or business from the railways include employees, bondholders, stockholders, producers of fuel, equipment and materials, and the public generally through the taxes the railways pay. (3) In the six years ending with 1927 the average annual gross earnings of the railways were 6 billion 69 million dollars, and their total payroll (for both operation and capital expenditures) averaged **47.2 per cent of their gross earnings.** In the six years ending with 1933 their average annual gross earnings were only 4 billion 681 million, and their total payroll averaged **47.3 per cent** of their gross earnings. In the six years ending with 1939 their average annual gross earnings were only 3 billion 751 million dollars; and their payroll averaged **47.1 per cent** of their gross earnings. In the first eight months of 1936 the payroll was **47 per cent** of gross earnings. The wage advances made in 1937 are still in effect, and in the first eight months of 1940 gross earnings were 6.6 per cent larger than in 1936; but the total payroll in the first eight months of 1940 was again—**47 per cent of gross earnings!** What these figures seem to us to demonstrate is that there is an economic law which determines what percentage of their gross earnings the railways will and **can** devote to their payroll; and if there is made an advance in the wages they must pay,

unaccompanied by a corresponding increase in gross earnings, **the inevitable result will be a reduction in the number of employees, and loss by the railways of the work that the employees laid off would otherwise have done.**

We insert, for purpose of illustration, a table giving statistics showing gross earnings and certain facts regarding railway employment in each of the eleven years ending with 1939. No figures could better illustrate the truth of our proposition that the amount of gross earnings almost solely and absolutely determines the amount of the payroll, and that in the absence of an increase in gross earnings an advance in wages reduces the total number of employees. Note that in 1932, the year when a 10 per cent deduction from basic wages was made, the payroll was 48 per cent of gross earnings—a larger percentage than usual; and that the number of employees was greater than it has been in any subsequent year, excepting 1936 and 1937. Note, also, that in both 1938 and 1939, following the advances in wages made in 1937, the number of employees was less than in any other year shown, excepting 1933.

		All Employees							Division Officers, Assistants and Staff Assistants				
	Railway Gross Earnings (000)	% of 1929	Total Payroll (000)	% of 1929	Per cent to gross Earnings	Total No. of Employees (000)	% of 1929	Average Compensation	% of 1929	Average No. of Positions	% of 1929	Total Compensation	Average Compensation	% of 1929
1929	$6,279,521	100	$2,896,566	100	46	1,661	100	$1,744	100	9,268	100	$38,710,007	$4,177	100
1930	5,281,197	84	2,550,789	88	48	1,488	90	1,714	98	8,913	96	37,558,549	4,213	101
1931	4,188,343	67	2,094,994	72	50	1,259	76	1,664	95	7,948	86	33,325,707	4,193	100
1932	3,126,760	50	1,512,816	52	48	1,032	62	1,466	84	6,704	72	25,332,907	3,778	90
1933	3,095,404	49	1,403,841	48	45	971	58	1,445	83	6,109	66	22,035,049	3,607	86
1934	3,271,567	52	1,519,352	52	46	1,008	61	1,508	86	6,154	66	23,005,775	3,738	89
1935	3,451,929	55	1,643,879	57	48	994	60	1,653	95	6,099	66	24,624,396	4,037	97
1936	4,052,734	64	1,848,636	64	46	1,066	64	1,735	100	6,204	67	25,451,300	4,102	98
1937	4,166,069	66	1,985,447	69	48	1,115	67	1,781	102	6,442	70	26,995,949	4,190	100
1938	3,565,491	57	1,746,141	60	49	939	57	1,859	107	6,151	66	26,129,352	4,248	102
1939	3,995,004	64	1,863,334	64	47	988	59	1,886	108	6,005	65	25,618,970	4,266	102

As the facts demonstrate that, no matter what changes are made in wages, no increase in the total payroll will or can be made without an increase in gross earnings, what has been wrong with the *Railway Age's* editorial policy in (1) adopting this **fact** as a premise; (2) opposing advances in wages not justified by increases in gross earnings; and (3) urging cooperation by all deriving incomes or business from the railways for the purpose of increasing their gross earnings **in order that all of them may benefit thereby?**

Disregarding their ethics, we are not impressed by the economic intelligence of those who do not know or disregard all the facts of railway history showing that, in the long run, all the classes deriving income or business from the railways must suffer or prosper together. However, assuming for purposes of exposition that our economic system is and should be entirely a dog-eat-dog affair and that our correspondent is therefore justified in his admittedly selfish viewpoint, let us see what the facts show as to his claim that the pay of supervisory officers depends on and is increased by advances in the wages of employees. The accompanying table sets forth the volume of employment and average compensation of "division officers, assistants and staff assistants" in the years from 1929 to 1939, in comparison with the number and compensation of all railroad employees during the same years.

This table does not show any close parallelism between the changes in the salaries paid these supervisory officers and in the wages paid to employees in general. The average annual wage of all employees reached a low point of 83 per cent of the 1929 average in 1933, whereas, in that year, the average compensation of these supervisory officers stood at 86 per cent of the 1929 level. On the other hand, in 1939, average compensation of all employees was 108 per cent of the 1929 level, while the average compensation of these supervisory officers was 102 per cent of the 1929 level. In other words, as would naturally be expected, the figures show that the pay of both supervisory officers and employees declined and advanced at the same times during the depression; but that the average pay of supervisory officers had not declined as much at the bottom of the depression as the average pay of employees in general, and has not since risen as far above the 1929 level as the wages of employees in general—indicating that while the changes made in it have been influenced by those made in the pay of employees, it has been influenced much more by other causes.

Wages for dispatching trains, or running a train or an engine, do, of course, have some bearing on the **minimum** salaries paid to the supervisory officers who are just a step above the rank-and-file; but it should not be overlooked that these jobs are **really competitive.** Nobody gets or holds such a job just because of his seniority. Being competitive, the salaries paid for them are determined to a large degree by the simple forces of supply and demand. One of the important factors, certainly, is the number of men competent for supervisory work who are looking for jobs. The table shows there were actually fewer "division officers, assistants and staff assistants" on the payroll in 1939 than at the bottom of the depression—almost one-third fewer than in 1929. The number of competent supervisors who are out of work, or have dropped back into the ranks, may be more of a factor in depressing the salary level for these positions than the wage level of rank-and-file employees is in increasing them.

We recall a situation before the last war when the normal salary of a section foreman was $65 per month and that of a roadmaster $135 per month on a road on which it was the practice to promote section foremen

directly to roadmasters. Certainly it could not be maintained that here the section foreman's salary determined that of the roadmaster. The real determinant was the fact that not one out of a dozen section foremen had the makings of a roadmaster. On the same road at the same time a roundhouse foreman working 12 hours a day, 7 days a week, earned less than a machinist would have earned by putting in equivalent hours; and yet there was no dearth of machinists eager to secure the foremanship, because that was the route to further promotion. A man who was content to be a machinist all his life could not have been tempted by the foreman's salary; but such a man probably wouldn't have made a good foreman, anyhow. The point we are trying to make is that it is altogether too simple to ascribe the salary level of supervisors to the wage level of the rank-and-file. It is only the lower ranks of supervisors on whose pay the wage level of employees would have any effect; and even in these cases the wage level is only one of several factors, and not necessarily the most important.

Diminishing Opportunities for Promotion

It is possible to understand how an employee in the ranks, getting along in years and without ambition for further promotion, can look with complacency upon a wage policy which pays older employees high wages at the expense of furloughing younger employees and upon political policies which tend to depress the volume of railway traffic and income, as the New Deal does. But it is difficult to understand how a supervisory officer could look with equanimity upon such policies. In 1929, as the accompanying table shows, there were 9,268 full-time positions on division supervisory staffs, and in 1939 only 6,005 such positions. There must be hundreds of trainmasters and road foremen who—but for the decline in railroad traffic and employment—would today be assistant superintendents or superintendents. In 1929 there were 7,674 officers classified as "executives, general officers, and assistants." In 1939 there were almost 2,000 fewer such positions. So today there must be some 2,000 men on the depleted staffs of division supervisors who, except for policies which have curtailed railroad traffic and employment, would have graduated out of the supervisory into the executive class—with consequently greater responsibilities and greater compensation.

If the wage policies of the railway unions have benefited any supervisory officers, as our anonymous correspondent contends, then it is only the time-serving category of such officers who are content to hold on to their jobs and without ambition to advance to higher responsibilities. Moreover, any railroad officer who would accept the line of argument of our correspondent is unfitted for a managerial position, because acceptance of his point of view involves repudiation of all duty and responsibility to railway owners, which is the absolute negation of the economic and moral obligation voluntarily assumed by every railway officer.

Our correspondent charges us with being a "consistent enemy of railway labor"—a charge often made against us in labor union publications, but surely very seldom made by railway officers, and untrue no matter by whom made. Our effort always has been to promote the welfare of **all** deriving income or business from the railroad industry, including **railroad labor as a whole**; and again and again we have cited figures, as we already have in this editorial, demonstrating beyond any question that **the total wages paid to railroad labor are not determined by railroad unions, or by the government, or even by railway management, but by economic law which persistently, year after year, limits the total payroll to about 47 per cent of gross income.** That being the case, anybody advocating general wage increases in a time of depressed gross earnings is simply trying, whether he knows it or not, **to enrich the employees safely upon the seniority list at the expense of the junior employees**; and we maintain that in a period of persistent unemployment it is more desirable, both socially and economically, to use any increase in the funds available for wages to rehire furloughed employees than to pay increased compensation to older employees who are already drawing more money than ever before.

As between railway owners and railway employees, what we have done is to bear in mind and emphasize the fact that they are **equally necessary** and, if private ownership is to be maintained, must both be adequately paid from gross earnings. Now, there is no shortage of competent labor willing to work for the railways at prevailing wages, and there has been no such shortage during the past decade, but there has been for more than a decade a shortage of new capital coming into the industry; and new capital is the principal source of improvement in efficiency, which, in turn, is the only means whereby both advances in wages and lower costs to customers can be provided.

Wanted—An *Intelligently*-Selfish Wage Policy

Railway labor organizations are justified in striving for the highest standards of wages and working conditions for their members **consistent with employment by the railways of all the men they need for operation and maintenance**; but when the unions push labor costs so high—as they demonstrably have within recent years—as to **prevent** the needed employment of hundreds of thousands of men who otherwise unquestionably would be employed, we contend that they disregard not only the interests and rights of railway owners and the public, but also the interests and rights of hundreds of thousands of furloughed junior employees. If that makes us an "enemy of labor,"—well, then, that's what we are.

In his "Inland Transportation" published in 1933, Professor Sidney L. Miller of the University of Iowa, made the following prophetic observation:

"In the face of price competition that grows increasingly keen it appears that, until rival agencies are

burdened with total service costs and certain other restrictions are imposed in the interest of public safety and social policy, railway workers must choose between a small volume of employment at high wage rates and a greater volume at lesser rates—which may yield a larger annual income per worker, though it is not certain so to do. But there is little to indicate that railway labor has made an economic analysis of the problem with which it is faced and has recognized the necessity in self-interest of major concessions in both restrictive rules, where such exist, and rates of pay."

This subject of railway wages is a complex one which involves the economic well-being of more than 1,000,000 wage-earners. Hence a more favorable field for the talents of demagogues could scarcely be found. But demagoguery cannot dam the flow of economic forces; and the persistent continuance of depression and unemployment on the railways at a time when government statisticians are trying to convince the people that national economic activity is now ahead of 1929 ought to be raising grave doubts in the minds of railway labor union leaders as to how much longer popular delusion regarding the benefits of present railway labor union policies can be continued.

Present policies of government in discouragement of legitimate private business and of remunerative traffic volume on the railroads are proportionately injurious to railway employees and to railway owners. Policies with respect to the division of funds available for wages resulting in these funds being distributed among a dwindling number of men for the performance of a dwindling quantity of work do not lead toward security of either future employment or future pension payments. No amount of misrepresentations by even the most skillful of demagogues can forever prevent these facts from becoming known.

Transportation a Buyer's Market

The present freight rate bases were devised in the latter part of the 19th Century and the early part of the 20th Century. There are certain social advantages in a rate structure based on the ability of the shippers to pay, and the railroads were able to establish their rates on this basis, because *at that time* they enjoyed a near monopoly. The free hand given the rate-makers *at that time* resulted in shippers of certain commodities paying only half as much as shippers of certain other commodities for substantially the same service.

This practice was undoubtedly sound *at that time* —certainly it was so from the practical standpoint that railroad traffic and revenues grew continuously until the beginning of the last World War. Thereafter, under conditions artificially created by war demands, freight rates went up with other prices (but neither so quickly nor so high). After the war, most competitive prices were brought back to normal by the forces of competition, but the near monopoly enjoyed by the railroads *at that time,* coupled with the fact that their net earnings were still far from remarkable, gave justification for a policy of maintaining the rate structure at a level which seemed likely to produce the most satisfactory earnings. Unfortunately for the carriers, however, the near-monopoly conditions permitting the easy retention of this rate level did not persist.

To illustrate the resulting condition, freight rates were continued at a level in spots 100 per cent above pre-war, while commodity prices were trending constantly downward in price. Commodity prices declined to an average approximately 20 per cent above pre-war levels, while freight rates remained at approximately double the pre-war figure.

Higher-rated traffic, which formerly paid $1, now paid $2—while the former 50-cent traffic now paid $1. That is to say, the spread between low and high rates used to be only 50 cents, but now it was $1. Needless to say—regardless of the theoretical justification for these rates—they certainly held out handsome rewards to industrial managers to induce them to decentralize and otherwise curtail their use of transportation.

Probably the incentives to economize in transportation had already begun to dry up traffic in the early '20's before truck competition became an important factor. The advent of truck transportation merely gave shippers of *higher-rated freight* an additional substitute for rail transportation.

The trucks went to work on the $1-traffic (now increased to $2) by offering more complete and oftentimes more expeditious service, with rate concessions to volume shippers. They captured 80 per cent of this traffic. As we have heard more than one trucker say, these newcomers were quite willing to leave the 50-cent traffic (increased only to $1) for the railroads to handle. Then came the second depression ("recession") in 1937 and unsound motor transport expansion (primarily since the enactment of the Motor Carrier Act, 1935). In their desperate need, the railroads sought a 15 per cent increase on all traffic, including truck and water competitive traffic, and the Commission permitted them to take 10 per cent. Since this increase was highest on the traffic which had very largely left the rails, the increase really helped the trucks more than it did the railroads (10 per cent of $2 being twice as much as 10 per cent of $1).

These increases turned red truck figures into black and provided a wider "umbrella" for them, so that they were able to expand their traffic probably 40 per cent at railroad expense.

The railroads have not received a "square deal" at the hands of government, and much remains to be done in this direction. But progress toward adequate taxation of motor carriers does not, alone, solve the railroads' problem, as Sir H. Osborne Mance has pointed out in his remarkable book, "The Road and Rail Transport Problem," a review of which appears on page 835 herein. Sir Osborne makes abundantly clear why a freight rate structure, presupposing monopoly, cannot exist when the monopoly has vanished.

The Car for Southern Service is the "Jim Crow" Arrangement with Center Entrance

Illinois Central Lightweight, Alloy-Steel Rail Cars

Two cars, built by American Car and Foundry Company and each powered with two 225-hp. Waukesha-Hesselman engines have maximum speed of 73.5 m.p.h.

TWO de luxe rail motor cars have recently been built by the American Car and Foundry Company, at Berwick, Pa., for the Illinois Central. One of these cars, the "Illini," will be put in service between Chicago and Champaign, Ill. The other, the "Miss Lou," will operate between Jackson, Miss., and New Orleans, La.

The Illini is numbered 130 and covers a 183.1 mile run on I. C. trains 58 and 59 involving 16 stops (including 4 flag stops) in each direction in exactly four hours. The average speed is 45.8 m.p.h.

The Miss Lou (Mississippi-Louisiana) is numbered 131 and covers a 126.4-mile run, in each direction, on I. C. trains 54 and 55. Each of these trips involves 15 stops (including 7 flag stops), is made in 2 hr. 35 min. at an average speed of 49.1 m.p.h.

The general arrangement of the two cars is similar except for the center entrance on the Miss Lou.

The cars are styled and decorated in a similar manner in the interior, although the exterior color schemes are different.

These cars are designed to withstand the 100,000-lb. buffing load which complies with railway mail service requirements for a series of coupled cars of a total light weight on the rails of 300,000 lb.

Low-alloy, high-tensile steels were used throughout the framing or strength members, thus resulting in a substantial weight saving in the car shell.

The underframe is built up of rolled Z-section side sill members to which the transverse equipment supports and the floor supports are welded. Rolled channel-shaped center sills are welded in fore and aft of the bolster in order to carry the buffing loads back to the bolster and first crossbearer and thence to the side girders. A combination of rolled Z-shapes spanning from side sill to side sill and insulated from the car floor are welded in to facilitate three-point suspension of the pancake engines mounted beneath the floor.

The bolster is of welded construction consisting of top and bottom cover plates which are welded to web plates.

Weights and Dimensions of Illinois Central Rail Cars

Light weight of body shell, lb.	20,750
Light weight of finished car body on center plates, lb.	64,589
Trucks, lb.	20,720
Total light weight on the rails, lb.	85,309
Estimated water, fuel, oil, crew, etc., lb.	4,300
Total service weight on the rails, lb.	89,609
Total load, passengers, lb.	10,350
Total loaded weight on the rails, lb.	99,959
Length overall, ft.-in.	75 — 0
Width overall, side frame, ft.-in.	9 — 6
Height, rail to top of roof, ft.-in.	11 — 8¾
Height, rail to top of floor, ft.-in.	3 — 5⅛
Height, floor to ceiling air duct, ft.-in.	7 — 2
Seating capacity on the Illini	69
Seating capacity on the Miss Lou	61

Flange stiffeners and gussets are welded in at the vulnerable points in order that the stresses will be smoothly transferred.

By means of this box section and lightening holes on the neutral axis an exceedingly light bolster was obtained with a comparatively high safety factor.

Light gage steel false floor sheets were then welded

to the above mentioned underframe members, thus forming a water-tight and fireproof bottom covering for the floor.

The side frame is of girder-type construction with a rolled angle side sill or bottom chord and a light-weight rolled Z-bar side plate or top chord member. The posts are a pressed flanged U-section which when spot welded to the 14-gage side sheets form a very stiff, but light-weight box section.

The belt rails and window headers consist of pressed Z-shaped members, and are so arc welded to the side posts that they function as continuous members.

All of these framing members are first carefully jigged for location and alinement and then arc-welded together forming a skeleton or backbone to which the side sheets are then spot welded. All framing members are USS Cor-Ten steel.

The roof framing consists of a lightweight side plate angle to which is arc welded pressed Z-shaped carlines. Four Z-shaped purlines are welded to the carlines and run the entire length of the car and when riveted together with the carlines and the $\frac{1}{16}$-in. aluminum roof sheets form a stiff sub-assembly which when finally riveted to the side frames makes an extremely stiff unit. Further rigidity is gained by the light trussed framing which is fastened beneath the carlines to support the headlining and the air-conditioning duct, as well as the Pyle National center ceiling and low-pressure duct.

Both end frames are built up of welded construction with substantial end posts from the center sills at the bottom to the anti-telescoping sheet at the top. Both front and rear ends are designed to meet the new railway mail service requirements. The front end is made to accommodate five windows which give the operator excellent vision around the entire front of the car. The rear end has a standard coupler and draft gear and is equipped with face plates and diaphragms for the possible addition of a trailer at some later date.

The side sheathing of these cars is Armco high-tensile steel. The car sides, ends, roof and floor are insulated with Johns-Manville Stonefelt.

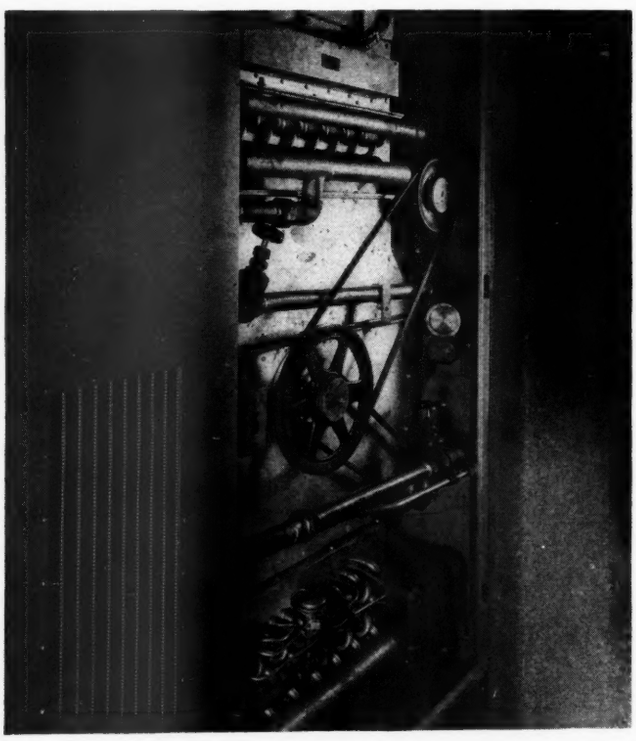
General Description

These rail cars were especially built for fast passenger service and secondary service on main lines and, therefore, the wide vestibules were equipped with swing doors and retractable steps to facilitate speedy loading and discharge of passengers. The steps, when locked in the closed position, carry a section of the skirting which covers the step well thus maintaining the streamline appearance on the exterior of the car.

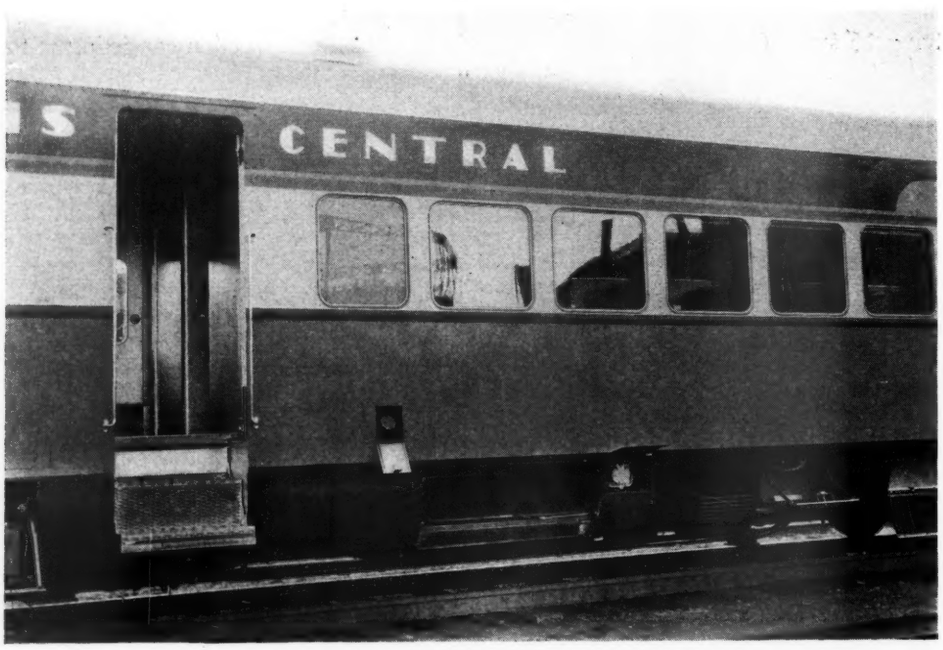
O. M. Edwards Company's double-glazed dehydrated sash was used, the inner sash being made removable for cleaning purposes.

The seats are the reclining back type furnished by Karpen and upholstered in L. C. Chase needlepoint.

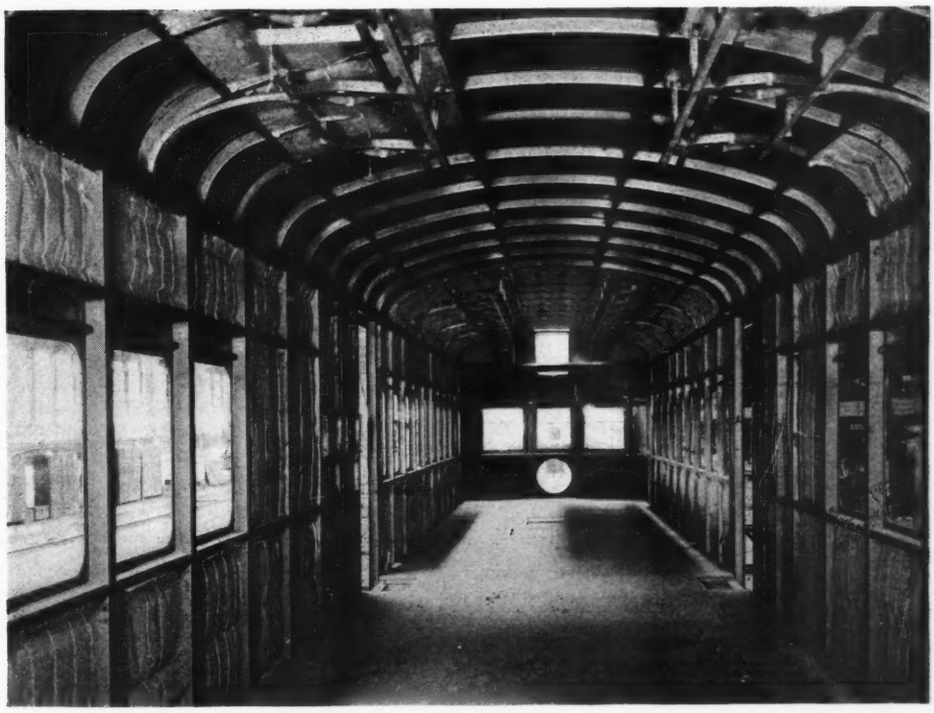
Over each seat is a Luminator side ceiling light fixture,



The Air Conditioning-Heating Unit Is Located In An Easily Accessible Compartment. The Four Pipes At the Lower Right Are the Water Lines From the Transfer Heater



The Retractable Steps Operate With the Door Mechanism. The Hatches in the Car Sides for Battery Compartments, Engine Radiator Shutters, Fuel Filling Opening, Battery Charging Receptacle and Air Intake Filter Are Shown in the Open Position



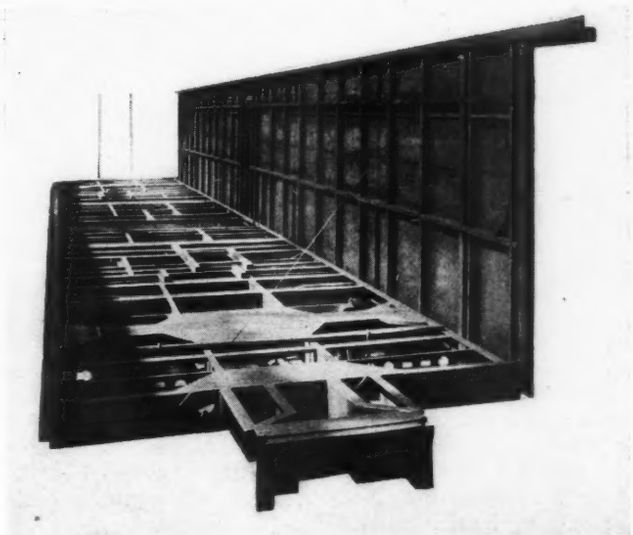
The Interior Car Framing With The Side Insulation and Flooring In Place

the lens of which is so made that there is an ample supply of light at the reading plane.

The cars are air-conditioned and heated with the American Car and Foundry Company's all-weather unit. The 6½-ton capacity air-conditioning unit is so installed that the air is taken in through large grilles in the evaporator unit, is then blown through high-pressure ducts in the ceiling and thence through the low pressure Pyle National ducts for distribution to the interior of the car.

The heating is accomplished by reversing the air flow through the above-mentioned unit, the air being passed through fin coils which are heated by the hot water from the engine cooling system. The air is then blown downward and carried throughout the car in ducts located at each side of the car under the seats.

Supplementing the available heat from the hot water in the engine cooling system, and in order to give more flexibility in the thermostatic temperature control, a 12-kw. electrical heating unit was also added in the heating and cooling locker.



The Underframe and One Side Member As Viewed From the Rear End of the Car

Interior and Exterior Decoration

The exteriors of the two cars are different as to color scheme only.

The Illini, which will go into service between Chicago and Champaign, is painted blue and orange incorporating the use of the University of Illinois colors. The navy blue being used on the lower girder and above the windows at the front end, the orange below the girder on the skirting and on the letterboard above the windows. The piers are gray simulating glass which render them less conspicuous. The roof is finished in an aluminum paint.

The Southern car, or Miss Lou, incorporates the colors of the Mississippi and Louisiana state universities, purple and gold, and blue and red, respectively.

The lower girder and the letterboard above the front windows is painted blue and the skirting and letterboard at the side is red. The purple and gold is used in the striping around the windows and the vertical piers are treated the same as the Illini.

The interior decorative schemes of both cars are alike and is built up around the two shades—blue and gray.

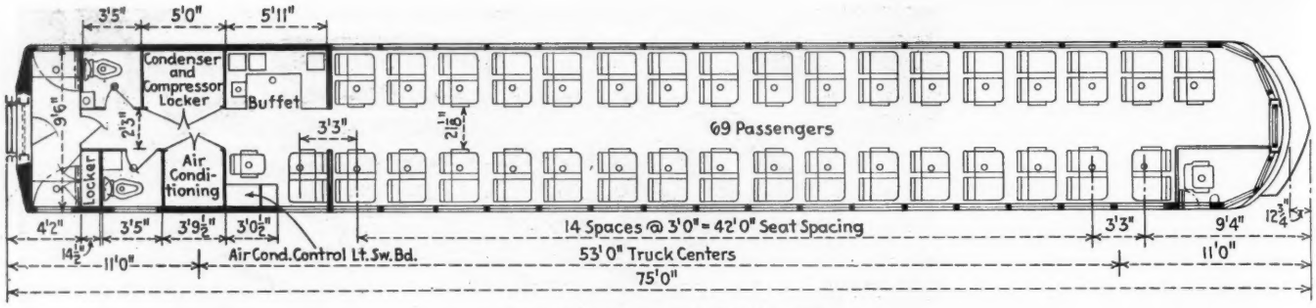
The wainscoting or dado, painted a strong blue, forms a perfect background for the seats, six of which at either end of the compartment are upholstered in a soft blue dual tone striped bonpoint material. Those in between are covered in the same type fabric in soft gray.

This arrangement of dark tone seats at opposite ends of the compartment gives the illusion of shortening it, thus taking away the long tunnel appearance usually seen in the standard passenger car.

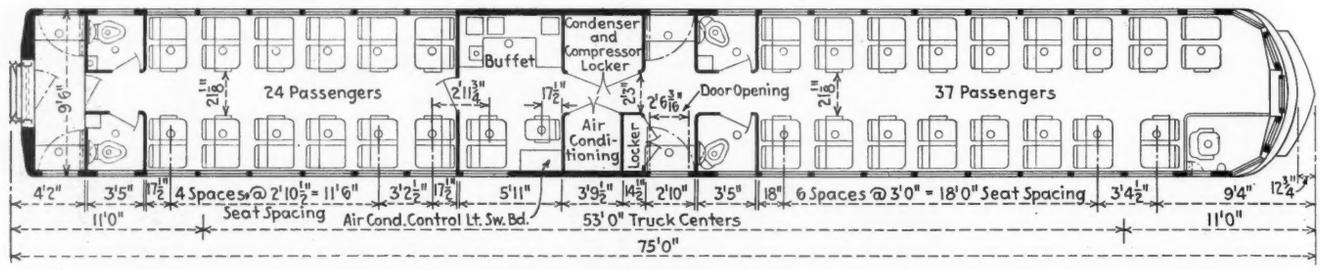
The window capping is black, while the piers, facis and bulkheads are a light shade of blue gray.

The Excel curtains are a gray faced Moonray material with an orange accent stripe across the bottom.

The side and center ceiling are egg shell ivory and



Floor Plan of the "Illini," No. 130



Floor Plan of the "Miss Lou," No. 131

are separated by two 16-in. bands of light gray which set off the side ceiling lights. The lights are finished in satin finished chome in keeping with all of the hardware in the car. An orange stripe each side of the air duct introduces an interesting note of contrast.

The basket racks, furnished by Adams and Westlake, are of tubular design and satin chrome finish.

The floor is covered with Armstrong taupe linoleum and has rectangular block inlaid decorations of blue and orange repeating at nine-foot increments throughout the aisle.

The cab at the forward end of the car is merely surrounded with a tubular railing thus leaving the entire front end open above the seat level for the clear vision of all passengers.

The bulkhead at the rear of the compartment appears to be a large arch. However, the door is framed on each side by large glass openings beyond which can be seen the stainless steel buffet. The buffet was furnished by Angelo Colonna and is compact, and efficiently designed for serving light lunches.

The Power Plant and Transmission

The six-cylinder engines for these cars burn Diesel oil, but are not Diesel engines. They are built for American Car and Foundry Company by the Waukesha Motor Company, Waukesha, Wis., under license of the Hesselman Motor Company, Stockholm, Sweden. Each engine is a solid injection, low-pressure, electric ignition oil engine.

The crankcase and cylinder block frame are placed in a horizontal position with removable alloy iron cylinder liners pressed into the case. The main bearings are also carried in this frame with the split well below the center line. The pistons are aluminum alloy with non-sticking, wedge-type rings. The head of the piston is cupped to form the combustion chamber, which is fully machined and designed to create and sustain the controlled turbulence necessary for complete combustion.

The entire valve mechanism, as well as the injection and ignition devices are carried in the cylinder head, which is cast in blocks of three. Lubrication is by full force feed to all moving parts, including the crankshaft, crank pins, piston pins, valve gear, timing gears, auxiliary shafts and accessories.

In operation, the Hesselman engine, like the Diesel engine, draws in a charge of air alone, which is then compressed to a maximum compression pressure from 135 to 140 lb. per sq. in. Near the top of the compression stroke, the Bosch fuel pump injects a metered charge of fuel oil into the turbulent air stream where it is mixed thoroughly and is swept around the combustion space past the electrodes of the spark plug, which is on the opposite side. At this point, the spark plug fires the charge and the piston moves forward on the power stroke. Near the end of the power stroke, the exhaust valve opens, releases the burned gas and the cycle is repeated.

The engine is equipped throughout with steel-backed, babbit-lined bearings for both the main crankshafts and the large ends of the connecting rods. Elsewhere, phosphor-bronze bushings are used as in the upper end of the connecting rod, the oil pump, crankshaft and other auxiliary bearings. Each engine develops 225 hp. at 1,800 r.p.m. and will operate either independently or together from one control station, permitting flexibility in car performance as well as in the selection of the actual power applied. The engines are 6¼-in. bore by 6½-in. stroke.

The engines are equipped with full safety devices, which protect them against overheating, loss of lubricant, low oil pressure or low cooling water supply. They are started by conventional electric starters, which is possible due to their low compression pressure and relative ease with which they may be cranked.

The transmission is a hydraulic torque converter which includes a direct drive feature. It is manufactured by the Twin Disc Clutch Company and is designed especially for rail motor car use. The torque converter consists of two elements: One, the hydraulic element which provides torque multiplication for acceleration and performance on heavy grades; the other, the direct drive element which couples the engine directly to the drive axle for operation at higher speeds and on lesser grades. There is a duplex clutch in the torque con-

verter for the engagement of either the hydraulic or direct drive element. A free-wheeling device is used on the power take-off shaft to permit the car to drift freely without the retarding effect caused by engine drag when the engines are not driving the car. The free-wheeling device will also permit the operation of either engine if the other is inoperative. The duplex clutch is actuated electro-pneumatically. An electrically-controlled air cylinder shifts the clutch on both torque-converters simultaneously and has a neutral position when neither of the duplex clutches is engaged.

Car operation is controlled by a master controller which in the "off" position completely shuts off fuel oil from both engines. The first controller position allows the engine to idle at approximately 800 r.p.m. In the next seven positions, engine speed is increased and the car moves through the hydraulic drive to a maximum engine speed of 1,800 r.p.m. or approximately 45 m.p.h. car speed. Here the controller handle has a stop. When the stop is released and the handle moved to the next position, the engine speed drops to 800 r.p.m. and the shift from hydraulic to mechanical drive is made automatically by an electro-pneumatic cylinder on the Twin Disc torque converter. From this point there are nine controller positions in mechanical drive through which engine speed is increased to a maximum of 1,800 r.p.m. and a car speed of 73.5 m.p.h. The reverser handle on the controller is interlocked so that the main speed control handle can not be moved when the reverser handle is in the neutral position.

Forward and reverse operations are accomplished by shifting a sliding jaw clutch in each of the two drive axles. Each drive axle has two floating spiral bevel ring gears meshing with a common pinion. The jaw clutch is locked to the drive axle shaft by splines and engages one ring gear or the other depending on which direction the car is to operate. The forward and reverse shifts on the two drive axles are synchronized and

The Operator's Station at the Front End Is Enclosed With Roller Curtains for Night Operation

actuated by an air cylinder controlled by an electric switch in the operator's cab. Both axles are shifted simultaneously.

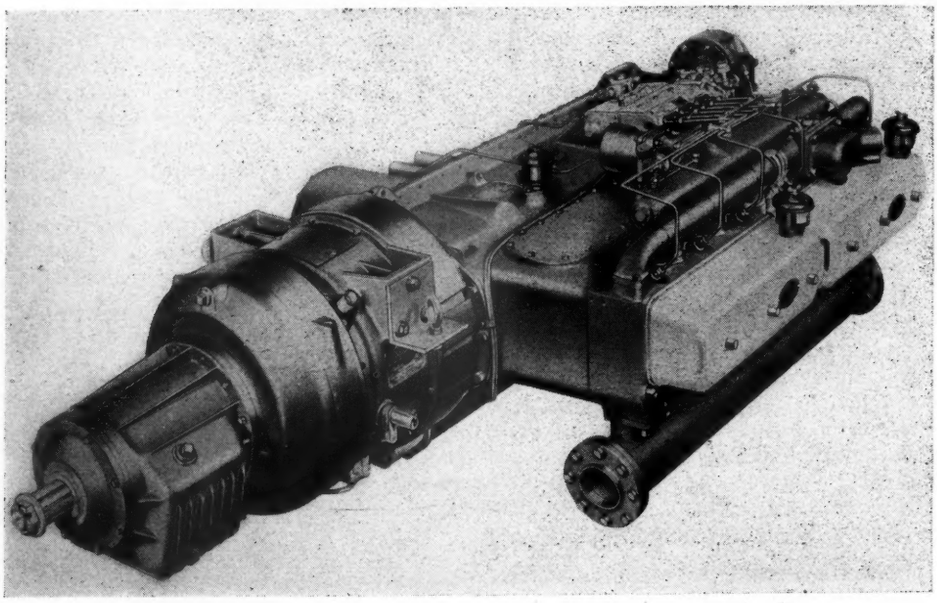
All of the power and control equipment is located under the floor of the car. The hydraulic torque converter is bolted directly to the engine flywheel housing. Power is transmitted from the torque converter by means of a drive shaft toward each truck. The outer end of each drive shaft is retained by a midship bearing. From these points the power is transmitted by means of a propeller shaft having two solid universal joints to each drive axle. Each propeller shaft projects through a clearance hole in its respective truck bolster.

Accessories are driven by V-belts from a main sheave which is in turn driven by the propeller shaft from the timing gear end of each engine crankshaft. Half of the accessories are driven by each engine so that accessory power is divided equally between the two. The accessories for each engine consist of one 20-kw. 125-volt d.c. generator, one 12-volt generator, one engine cooling

The Men's and Women's Saloons Are Equipped With Folding Lavatories

water pump, and one Bendix-Westinghouse 12 c.f.m. air compressor.

Each engine has two sections of water cooling radiators arranged across the car adjacent to the accessories and their belt drives. The radiator cores are of the fin and tube type. Engine water temperature is regulated by Kysor automatic thermostatically-controlled radiator shutters. These shutters are operated by a thermostatic air valve and an air operating cylinder and by means of felt inserts in the vane edges are tightly closed in the closed position. The thermostat tube is located in the water line between the engine outlet and the top of the radiator. When the temperature of the engine cooling water reaches 188 deg., the shutters open and remain open until the temperature drops to 180 deg. at which point they close. Radiators are cooled by 26-in. diameter aluminum fans, one of which is driven by each engine. Each fan is driven by a propeller shaft having a flexible rubber joint at each end, and one end of which is attached to each main belt sheave. The engine cooling water also cools the torque converter fluid by means of heat exchangers. Car heat is obtained from engine cooling water which is supplemented by electric heat from one or both of the 20-kw. generators in cold weather. These



The Power Plants Consist of Two Six-Cylinder Waukesha-Hesselman 225 Hp. Oil Engines With Twin Disc Clutch and Torque Converter and Free-Wheeling Unit. The Engines Are Placed in the Horizontal Position

generators supply current for air conditioning, etc., during summer operation.

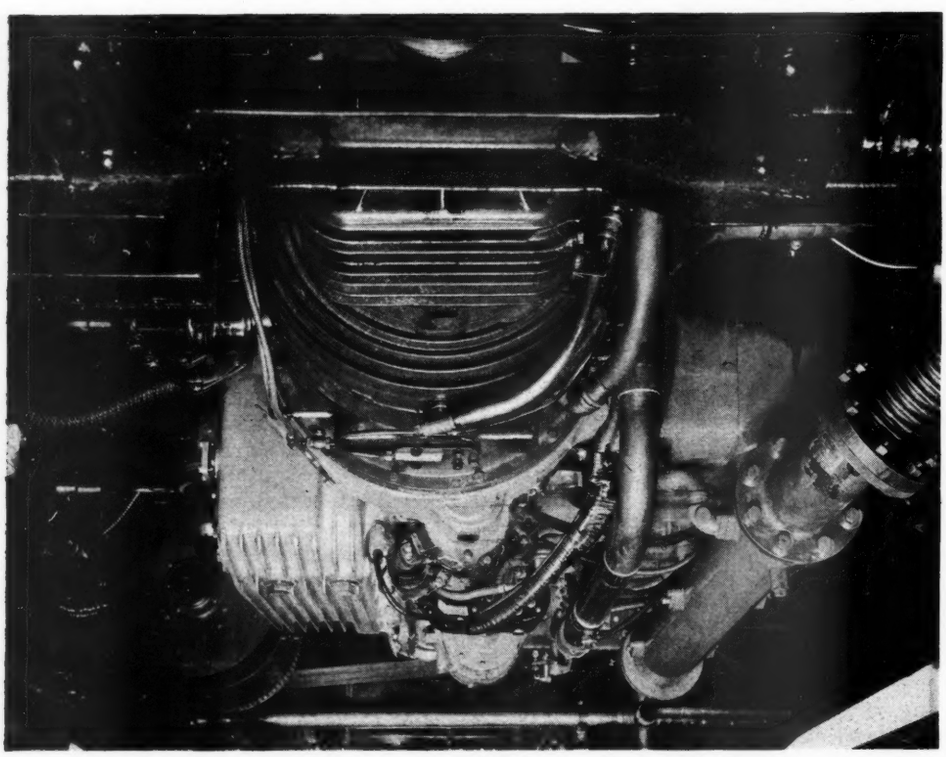
Electrical Equipment

Electrical equipment on these cars is based on using a dual voltage system, i.e., 12 volts and 125 volts. The 12-volt system is used for engine starting, headlight, defroster, and other small accessories. Each headlight is equipped with a 12-volt 30-ampere bulb which gives a pickup distance considerably in excess of a conventional locomotive headlight. The 12-volt 25-plate battery is charged from a 40-ampere generator belt driven from the engine.

Each power plant belt drives a 125 volt, 20 kw. generator over a speed range of nearly 4 to 1. Cool clean air for each generator is supplied through a louvred opening in the side of the car which has a suitable duct connection to the generator. Two generators on each car are operated in parallel through an equalizing resistor and supply the necessary power for air conditioning, electric heat, electric range, hot water, lights, control and other electrical accessories and at the same time charges a 56 cell KX-7H Exide Ironclad battery. The electrical control circuits are so arranged that the cars can be arranged for multi-unit operation when necessary.

Trucks, Couplers and Brake Equipment

The trucks are the four-wheel type with cast-steel frames and bolsters. The axles are mounted in Timken



An Underside View of the Power Plant and Transmission

roller bearings. The side frames are supported on the journal boxes by coil springs, and carry the bolster on full elliptic springs. The truck center plate is a new design, in which, by means of a Neoprene pad working partially in shear and in compression, isolates the car body from the truck. The trucks have inside brakes with cylinders mounted on the truck frames.

The air brake system is the New York Air Brake Company's Schedule SME straight air brake with automatic emergency feature designed to stop the cars at a braking rate of 2.5 m.p.h. per second at 75 lb. pressure.

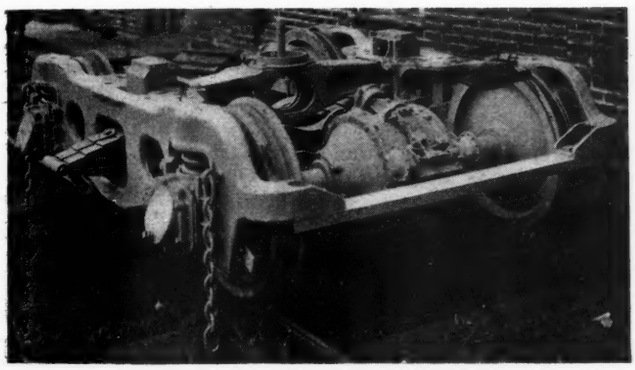
The coupler at the front end is concealed within the sheathing and flush removable covers are used.

Performance

In order to meet the operating schedules, rapid acceleration and decelerations are necessary. On a test run of Car No. 131 when just out of the builder's plant, the following acceleration was noted:

M.p.h.	Min.	Sec.	Grade	Curves
10	0	07		
20	0	15		
30	0	27		
40	0	44		
50	1	08	Level	Tangent
60	1	39		
65	2	05		
70	2	30		
73.5	2	55		

Distance from start to maximum speed—2.0 miles.
Acceleration rate 0.42 m. p. h. per second.



The Power Trucks Have Coil Springs Over the Timken Roller Bearing Journal Boxes With the Bolster Supported on Elliptic Springs. The Geared Axle Drive With Its Shifting Mechanism Is Seen In the Foreground

Partial List of Materials and Equipment on the Illinois Central Rail Cars

Steels, low-alloy, high-tensile	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.; Armco Railroad Sales Co., Middletown, Ohio.
Steel, open-hearth	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Aluminum; step treads	Aluminum Co. of America, Pittsburgh, Pa.
Insulation	Johns-Manville Sales Corp., New York.
Couplers	McConway & Torley Co., Pittsburgh, Pa.
Roller bearings	The Timken Roller Bearing Company, Canton, Ohio.
Wheels; axles	Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Brake shoes	American Brake Shoe & Foundry Co., New York.
Springs	American Locomotive Co., Railway Steel Spring Div., New York.
Air compressor	Bendix-Westinghouse Automotive Air Brake Co., Pittsburgh, Pa.
Air brakes	New York Air Brake Co., New York.
Hand brake	National Brake Co., Buffalo, N. Y.
Engine	Waukesha Motor Co., Milwaukee, Wis.
Torque converter	Twin Disc Clutch Company, Racine, Wis.
Propeller shaft and bearing	Spicer Mfg. Co., Toledo, Ohio.
Generators	General Electric Company, Schenectady, N. Y.
Radiators	Young Radiator Co., Racine, Wis.
Radiator shutters	Kysor Heater Co., Cadillac, Mich.
Batteries	Electric Storage Battery Co., Philadelphia, Pa.
Exhaust ventilating fans	Diehl Mfg. Co., Elizabethport, N. J.
Multi-vent panel	The Pyle-National Company, Chicago.
Air-conditioning control	Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
Cooling fans	B. F. Sturtevant Co., Hyde Park, Boston, Mass.
Air conditioning	American Car and Foundry Co., New York.
Headlights; charging receptacle	The Pyle-National Company, Chicago.
Light fixtures	Luminator, Inc., Chicago; Safety Car Heating & Lighting Co., New York.
Air sander	Graham-White Sander Corp., Roanoke, Va.
Cab heaters	Consolidated Car Heating Co., Albany, N. Y.
Sash	O. M. Edwards, Inc., Syracuse, N. Y.
Linoleum	Armstrong Cork Co., Lancaster, Pa.
Body seats	S. Karpen & Bros., Inc., Chicago.
Glass	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Window curtains and fixtures	Excel Curtain Co., Elkhart, Ind.
Locomotive bell and ringer	American Locomotive Co., Railway Steel Spring Div., New York.
Dual tone Leslie-Tyfons	Leslie Co., Lyndhurst, N. J.
Rear horn	Buell Mfg. Co., Chicago.
Basket racks	The Adams & Westlake Co., Elkhart, Ind.

How British Railways Aid National Defense

THE British railways remain as one of the few examples of completely private ownership of a national network outside of the United States; and they have not been placed under government operation because of the war. The fact that the Minister of Transport, acting under the Emergency Powers (Defense) Act of 1939, assumed control of the main line carriers, London Transport and several smaller railways at the outbreak of the war, does not mean that private management has been superseded. On the contrary, administration of the individual roads proceeds as heretofore from their own headquarters (removed "for the duration" to rural or suburban locations); Ministry control is exercised largely in the sphere of joint arrangements and seeing to it that national needs get priority.

Extensive plans have been made to enable the railways to maintain communications despite aerial attacks. When war was declared one railway employee in ten was fully qualified in Air Raid Protection duties, and the air raid precautions are constantly being perfected as a result of the experience which is being gained. In addition to lectures and practical demonstrations, instruction trains equipped with "decontamination chambers" and lecture rooms have made tours throughout the country. The staff of the roads have made a most important contribution to the strength of the Local Defense Volunteers (Home Guard). Many thousands of employees are so serving, and, as they are mostly ex-servicemen, the task of training them for their new duties is comparatively simple. They are now being used all over the country in guarding switch towers, power stations, bridges, stations and other points on the railways' own property which need special protection. The Home Guard includes all classes, including high officers, clerks, train service men, etc., all sharing equally the duties of the organization.

One of the first war tasks of the railways was the evacuation of school children, cripples, and invalids from London and the larger cities. In less than four days over 1,300,000 evacuees were moved. From the London area alone, 1,500 special trains were run, and these moves are still proceeding at intervals. Another task was the conversion in railroad shops of seven *miles* of cars into ambulance and casualty trains, which was accomplished within three weeks' time.

The blackout, essential for safety, provided all kinds of problems to the railways, many of which have now

(Continued on page 835)

How to Get More Farm Traffic*

Rates which go up and down with prices and better marketing arrangement advised—Labor's co-operation needed

By Donald Kirkpatrick

General Counsel, American Farm Bureau Federation

AMERICAN farmers are vitally interested in the maintenance of a highly efficient transportation system. Most of our commercial farmers live in the South, the Midwest and the Far West, while a great part of the consumer market is concentrated in the industrial Northeast. This means that farm products must travel hundreds—yes, even thousands—of miles en route to consumers. For example, it is estimated that the commercial supply of fresh fruits and vegetables, the most perishable of all farm commodities, travels an average of 1,400 miles on its way from producers to consumers. This figure doesn't seem so high when we stop to consider that the City of New York receives approximately 40,000 carloads of fresh fruits and vegetables, or about one-fifth of its local supply, from California producers every year.

And what does this agricultural traffic mean to the railroads? In 1939, agricultural products, including animal and forest products, accounted for 17 per cent of all freight shipped on the nation's steam railways.

The Farmers' Policy on Transportation

The American Farm Bureau Federation has consistently advocated—(1) private ownership of the railroads; (2) economical and efficient operation; (3) preservation of the inherent and natural advantages of each type of transportation, and (4) a just and equitable rate structure. When the policy-forming body of our organization made these pronouncements, it appreciated the rapidly changing competitive situation the rail carriers were having to meet—a situation still very tense.

Inspired by the slogan "Food will win the war" American farmers plowed up 40,000,000 acres of new land during the First World War to feed the soldiers and civilians of the United States and her Allies. Exports of farm products continued large for a time after the war, then began to dry up. Our high tariff policy and the nationalistic attempts of other countries to attain self-sufficiency were having their effects. On top of declining exports came the rapid shift from horses to farm tractors. Horses which formerly consumed 35,000,000 acres of feed crops were eliminated.

Farmers Not Well Off Even in '20's

As farm markets dwindled, farm prices and farm income dropped. All through the 1920's agriculture was out of balance with the other groups in our economy. Then, in the early 1930's the bubble of industrial prosperity burst. Farm prices and farm income dropped even more sharply than before, for the decline in industrial employment left consumers without income with which to buy farm products. The farmers' situation was even worse than the decline in farm prices would indicate, because industry attempted to maintain prices by reducing production as demand declined; while farmers continued to produce, but got very little for their output.

Let's compare the impact of the depression on the railroads with its effect on farmers. Both farmers and the railroads were hurt, but in different ways. The years 1925-1929 were not particularly prosperous for the railroads or the farmers, but in the light of what happened later they were not so bad. So, we will take that five-year period as a base.

In 1932, at the bottom of the depression, production was still 99 per cent as great as in the 1925-29 period, while the production of freight service had fallen to 54 per cent and production of passenger service to 51 per cent of the base period. Farm prices on the other hand were down to 44 per cent of the 1925-29 average, while the railroad freight revenue per ton-mile was still 97 per cent as great and revenue per passenger-mile was 77 per cent as great as during the most prosperous base period. This was not entirely the railroads' fault. They would have been glad to handle more traffic had industry created it. But farmers cannot help wondering if rigid rates were not a factor in the situation. We know rigid industrial prices were a big factor.

Farm Prices Fall—But Industrial Prices Stay High

The farm program which was inaugurated in 1933 with the original Agricultural Adjustment Act is an attempt to bring farm surpluses under control and to restore agriculture to a parity with other groups in our economy. By parity income, we mean a per capita net income for individuals on the farm from farming operation that bears to per capita net income of individuals not on farms the same relation as prevailed during the period from August, 1909, to July, 1914—a period generally believed to be one in which farm and non-farm incomes were in balance. So far as funds have been available, the program has proved effective. Farm income has risen from less than four and a half billion dollars in 1932 to about nine billions in the current year. Under the Soil Conservation Program farmers receive conservation payments for shifting some of their land from the production of soil-depleting crops such as cotton, tobacco, wheat and corn, into the production of soil-conserving crops, such as pasture and legumes. Farmers can also earn payments by performing certain soil conservation practices such as terracing and fertilizing. More than three million tons of lime have been delivered to farmers under this program—all of which means more business for the railroads. Since our principal surplus crops are soil-depleting, this program not only conserves the soil for future generations, but also reduces the surplus problem by putting a brake on its production.

The production-control features of the program are in

* Abstracted from an address delivered at A. A. R. annual meeting, November 15.

no sense a program of scarcity. Section 7 of the Agricultural Adjustment Act of 1938 specifically states that the powers granted to the Secretary of Agriculture under its provisions "shall not be used to discourage the production of supplies of foods and fiber sufficient to maintain normal domestic human consumption."

Under the Ever-Normal Granary Plan, farmers can store a part of their surplus under Government loan until consumers need it. Since agriculture is a biological industry whose output cannot be predicted or entirely controlled, this benefits both farmers and consumers. In years of bumper crops, removing surplus production from the market by means of a loan supports farm prices and insures adequate supplies to consumers in later periods when adverse weather conditions may have caused a short crop.

Stimulating Traffic in Farm Products

In some cases, the Ever-Normal Granary Program evens out the flow of products seeking transportation to market; in other words, it probably results in a larger portion of the total crop moving to market. Today, for example, much less wheat is fed to live stock than formerly.

A third method of attack upon the surplus problem consists of efforts to stimulate domestic and foreign consumption of agricultural products. Subsidies have been paid on exports of such crops as cotton and wheat. Subsidies have been used domestically to divert surplus farm products into by-products and other uses. Most important of all, a vigorous attempt is being made to increase consumption among the low-income groups of our own people through such devices as the stamp plan, the school lunch program, and the direct distribution of surplus products to the needy.

It is not likely that the farm program has greatly reduced the volume of farm products shipped to market. Even with a production control program in effect for several of our major crops, total production of agricultural products in 1939 was 107 per cent of the 1924-29 average. Insofar as the farm program is stimulating increased consumption, it is increasing the volume that moves to market. Insofar as the farm program has improved farm prices it has also tended to increase the proportion of their total supply farmers will sell. Volume of agricultural products transported by railroads is smaller today than it was in 1929, but this is largely due to the competition of other forms of transportation.

The real effect of our national farm program on the transportation industry is to be found in the increased business that has come to transportation agencies as increased farm income gave farmers and non-farmers directly or indirectly serving farmers more purchasing power with which to buy industrial goods. There is a wealth of evidence to show that farmers are good spenders and that if they have money they will spend it for industrial goods which some transportation agency must carry to them from the industrial centers. Records of mail-order sales, rural retail sales and automobile registrations in rural areas all bear this out.

Diversion of Farm Traffic to Other Transport Agencies

Railroad shipments of fresh fruits and vegetables dropped from 1,000,000 carloads in 1931 to 800,000 in 1937, while total production increased about 15 per cent. If the railroads had merely held their own relative to other methods of transportation, they would have hauled 1,150,000 carloads in 1937 instead of 800,000.

One of the important reasons for the loss is the inadequacy of the terminal markets now serving many of our large cities. The principal wholesale fruit and vegetable market in Philadelphia, for example, is located some distance from rail facilities. A farmer shipping fresh tomatoes to Philadelphia by rail must truck the tomatoes from his farm to the railroad, pay freight to Philadelphia, and then pay a cartage charge of around $30 a car from the railroad station to the wholesale market where they are finally sold. In some cases rail shipping means an extra middleman. Often it means extra handling and delay, both of which are important causes of deterioration.

The Lower Manhattan Market, which handles three-fourths of the fresh fruits and vegetables shipped into New York City, is another good example of a terminal market with inadequate rail service. Only one rail line has a direct connection with Manhattan, and this line does not go into Washington Street where most of the wholesale stores are located. The other rail lines maintain freight terminals on the New York and New Jersey mainland from which they float fruit and vegetable cars across to Manhattan.

At one time rail shipments were largely sold at the receiving piers, but the increasing importance of motor trucks as fruit and vegetable carriers has shifted so much of the wholesale business to Washington Street that rail receivers are now forced to truck a considerable part of their produce to Washington Street stores. This cartage cost averages $32 per car. Similar conditions prevail in other cities. In a recent study the Bureau of Agricultural Economics discovered that some hauling from railroads to the principal wholesale markets is necessary in 35 out of 40 large cities. In this same study the Bureau of Agricultural Economics found that "cartage and handling charges on produce arriving by rail in the wholesale markets of some cities are twice the charges on truck receipts." As long as such conditions prevail the railroads will continue to lose fruit and vegetable traffic. **Rate-makers should remember that shippers consider total marketing costs and not merely rail rates versus truck rates.**

Terminal Situation Diverts Traffic to Trucks

To date the railroads have not taken the constructive action required to prevent the diversion of fruit and vegetable shipments to truck lines. They have allowed new markets to be built without rail connections to the wholesalers' stores. As a matter of fact, some roads have objected to making such connection with the wholesale markets. It's true that individual roads have built what they call "markets" in a number of cities, but much of the money spent in this way has been wasted because of poor location. Roads which have built markets habitually bar all produce except that arriving over their own lines. As a result, their markets are unable to provide buyers with the quantity and variety of produce needed. Consequently, much of the produce delivered to these railroad markets is hauled to other markets by truck.

Such individualistic effort often makes the marketing situation worse instead of better. **If the railroads really want to retain their fresh fruit and vegetable business, they must get together and cooperate** with other groups in an effort to get complete markets (not more than one to a city as a rule) located where rail delivery can be made directly into the market buildings as easily as truck delivery.

In the case of live stock there has been a substantial loss of volume to the railroads, much of it traceable to failure of the carriers to make adjustments to meet competitive transportation systems. As in the case of fruit

and vegetable markets, we here again find markets have been built by railroads and others where buying power seems insufficient to bring into play the buying competition so needed by live stock to maintain price levels. Advancing rates on live stock during the past 25 years have restricted movements by rail. Consideration should be given to adjusting rates within the respective rate districts and particularly on shipments moving from one district to another.

Tariff Rules Which Destroy Patronage

Rules and regulations, while necessary, can be carried to the point where they become a barrier in the movement of traffic. For instance, at some market points sale in transit and diversion privileges are available while at others they are denied. "What difference," we ask, "does it make to the railroad, who owns the live stock being transported by it so long as it is sure of collection of the freight charges for the service performed?" For example, a car of live stock moving between two given points pays one rate, but should the ownership of the live stock in this car be changed during the course of movement, a substantially higher rate is charged. Farmers cannot understand nor appreciate why the mere change of ownership should affect the rate while the service performed by the carrier is practically identical.

Fat live stock (especially hogs and cattle and calves), cotton, milk, butter, poultry and eggs, baled hay and straw, sugar and sugar beets are other farm products in which the railroads have lost significant portions of the total traffic. To a certain extent this loss has been a result of the rate-making policies followed by the railroads.

One of the primary rules of railroad rate-making is the value of service principle. At times, the application of this principle has placed a disproportionate rate burden with respect to cost of service on commodities of relatively high value and on short haul traffic. This has been an open invitation for truck companies to undercut rail rates on this type of traffic, for it is the very type trucks are best adapted to handle. Lower rates by trucks have been usually welcome to the farmers during recent years of low farm prices. As long as freight rates do not change with prices, a drop in farm prices forces the farmer to pay out a relatively larger part of the receipts for transportation. For this reason farmers have long advocated more flexible rates. They are particularly opposed to rate increases at times when farm prices are dropping, as was demonstrated when the Interstate Commerce Commission held hearings on a proposed 15 per cent increase in January, 1938.

Rate Policies Which Drive Away Traffic

Of course, the railroads probably would have lost some farm tonnage even though their rates had been more flexible. The ability of a truck to pick up and deliver at their farms is important to farmers. In the case of live stock, trucks have a considerable advantage in being able to adapt their schedule to his convenience.

I am convinced that if the railroads are to prevent further losses of agricultural tonnage, they should adopt a more realistic rate policy. The old philosophy of raising prices in boom times to pay higher operating costs and raising them again in depressions to compensate for reduced volume, hurts both the farmer and the ralroads. Research has shown that farmers tend to sell more of a given supply when prices are relatively high than when prices are relatively low. An increase in freight rates amounts to the same thing as a decrease in prices, particularly for the farmer who is far from the market. Consequently, high freight rates tend to reduce freight volume. Furthermore, rigid rail rates permit trucks to cut into railroad business, and truck interests have been more eager to adjust their rates to economic conditions than have the railroads.

High rates cannot insure railroad prosperity. Rates alone mean nothing. It's rates times volume that tell the story of transportation revenue.

Farmers believe that rail rates should be adjusted downward when prices fall, as this would tend to maintain volume, prevent diversion of traffic to other agencies, preserve employment. In the end, such a policy would benefit the railroads, agriculture, and the public generally. Conversely, the railroads should be allowed reasonable rate increases in times of prosperity. Even then, in their own interest, railroads should not ask for rate increases which would divert traffic to other transportation agencies.

Agriculture appreciates that labor is the largest element of cost in rail transportation. Railway employees should be vitally interested in maintaining the volume of rail traffic. What possible advantage can railway labor gain from maintenance of rigid wage scales when either depression or high freight rates or both together are heavily reducing traffic or diverting it, perhaps permanently, to other agencies? Railroad employees actually working now number scarcely one-half of the number employed in 1920, yet their average compensation, both per hour and per year, is 15 per cent to 30 per cent higher than it was in 1920. Throughout the depression and up to this hour the real wage of railway employees who are actually employed has been from 10 to 30 per cent higher in terms of its purchasing power than it ever was in the post-war period down through 1929. Railway labor surely recognizes that it is at least as much responsible for the maintenance of unduly high and rigid rail transportation rates as rail management and the owners of railway securities.

Many of these long-run problems I mention have been pushed temporarily into the background by problems incident to our current rearmament program. What about car supply? The railroads reduced their supply of serviceable cars about 30 per cent from 1929 to 1939 by retiring wornout cars more rapidly than they bought new ones. Farmers first became aware of this in the fall of 1939 when an unexpected upswing in business activity reduced the supply of surplus cars to the vanishing point and overtaxed the reserve supply which the railroads were able to make available by hurriedly repairing unserviceable cars. In spite of everything that could be done to meet the emergency, some car shortages developed, and, while these were not serious, they set farmers to thinking about what might happen with further increases in business activity.

Under the stimulus of defense spending by our own government and heavy war orders from England, industrial production has already passed all previous peaks. Yet we are told that the defense program is still in the make-ready stage. As industry completes new plants and swings into the actual production of guns, ammunition, tanks and other war material, further increases in business activity will occur.

Some economists say that an increase of 20 per cent from the present level of business activity is likely to take place before industry can complete the defense program as it is now outlined. This assumes that the United States does not become involved in active hostilities, a development that would, of course, make all present estimates ultra-conservative. Everyone agrees that the defense program will cause a substantial increase in our output of industrial goods, which means more shipping,

particularly for the railroads, since much of industry's expanded output will be heavy goods.

Fears a Car Shortage

Farmers want to know whether or not the railroads are going to be able to handle this increased business when it arrives. A serious car shortage hits farmers first. They know that if it becomes necessary to ration freight cars, defense shipments will have first call on the available supply. Starting with the facts that industrial production is as high now as it was last fall and that some actual car shortages were reported at that time, forecasts for a Federal Reserve Board Index of 150 in production make the prospective car shortage seem very real.

Another alarming fact is the large percentage of the present car supply verging on the retirement age. Figures compiled by the American Railway Car Institute show that in January 1, 1940, Class I Railroads had more than 400,000 cars that were 25 years old or over, or about 25 per cent of all the freight cars owned by these roads on that date. Since the life expectancy of a freight car is about 29 years, a rather heavy replacement program will need to be followed for at least the next three or four years if a further decline in the supply of serviceable cars in the near future is to be avoided.

Only a few more than 200,000 railroad and privately-owned freight cars were built in the eight years from 1932 to 1939. Twice this number will reach the retirement age in the four years 1940-44. A considerable number of new freight cars were ordered last fall, but in recent months orders have been few. The railroads are still the farmers' most important means of transportation even though they do not handle as large a proportion of the total agricultural traffic as they did a few years ago. Consequently, agriculture is likely to be seriously hurt by a car shortage. Without adequate and timely freight service, agriculture would be helpless.

Farm Products Can't Wait on Cars

I want particularly to emphasize the importance of timeliness to farmers. Perishable fruits and vegetables cannot wait a week or ten days for the railroads to find an empty car—they must be shipped as soon as they are ready for market or heavy spoilage losses will result. Fertilizers can be applied only at certain times of the year. New machinery and machinery repairs must arrive at the harvest or planting time for which they were ordered—not two or three months later. The commercial poultry men and dairy men of our East and West Coasts must get regular shipments of feed from the Midwest. Stocker and feeder live stock must not be detained at central markets for want of cars to carry it to Midwestern feedlots.

Continuation of a car shortage for any length of time would hurt consumers by lowering the quality of farm products available to them. It would greatly increase the shift to truck and water transportation. Such a development would be almost certain to cause a very unfavorable reaction against the railroads. On every side there would be cries for the government to do something drastic to speed up transportation. Popular clamor might force the government to again take over the railroads, as it did in the last war.

Railroading, like agriculture, is an industry in which tradition is strong. I very well remember the hangover from the "Granger Days" of the latter part of the nineteenth century. Farmers had a grudge against the railroads, and railroad men bore just as deep a grudge against the farmers for the trouble they had caused the carriers by the extreme measures they advocated. Happily, those days have gone, and with them have gone the bitterness of feeling that prevailed. Both groups attack their own problems on a much broader basis, and both attack their problems through a much more intelligent approach. In those days railroads had a near-monopoly on transportation, but today they face the keenest of competition, which puts a totally different aspect on the situation.

It is the conviction of the Farm Bureau forces that permanent national prosperity can be attained only through abundant production, with goods and services measured in prices which will permit the greatest freedom of exchange between groups. We believe that mass production can only be supported by widespread ability to buy, and that if one individual or one group gets a dollar that it doesn't earn, then some other individual or group will not get a dollar that it does earn. That can only mean curtailed buying power, reduced production, reduced employment—depression and all of its evils.

If the spirit of American enterprise is to be perpetuated, unfair restrictions—whether legal or illegal, and whether imposed for the benefit of capital, of labor, or of agriculture, must be discarded. For this nation is blessed above all others in that it has the natural resources, men and the machinery, the inventive genius, and the administrative ability, the skilled labor, and capital, to create here an abundance for all, such as has never been attained in all the history of the world. We can do it, if we will simply use common horse-sense in utilizing the tremendous assets that a kindly Providence has placed at our disposal.

* * *

Photo Courtesy Victorian Government Railways

This Signal Towerman at the Hump Yard in Melbourne, Australia, Can Give Directions to Yard Crews Through a Microphone, Shown at the Left, Connected With High-Powered Loudspeakers Which Can Be Seen Through the Window at Right. This Yard Handles 59 Freight Trains on a Normal Night

No. 1 and 2—Before-and-After Modernization Pictures of the Waiting Room of the Milwaukee's Station at Minneapolis, Minn.

Must Modernize Passenger Stations to Keep Pace*

Can be done effectively and economically, says designer of many streamlined trains

By Otto Kuhler

Consulting Designer, New York

ABOUT two years ago, the operating vice-president of a large railroad received a telegram from the Chamber of Commerce of a medium-size town along the main line, reading: "You have given us excellent service, luxury, speed and comfort with your new streamlined trains. In contrast, your old passenger depot seems older than ever and is a disgrace to the community. I suggest that you modernize it for the sake of good will towards your railroad and greater comfort for our citizens that use it."

On an inspection tour somewhat later, this same vice-president, now conscious of the appearance of his passenger depots, felt that many of them could be improved and asked me to look into the matter. As you may know, I pioneered in the thought of streamlining locomotives and rolling stock for greater passenger appeal, and, as you may know also, this has brought a large amount of traffic back to the railroads which otherwise would have been lost forever. When streamlining a passenger car, it is not a matter alone of better engineering, weight-saving and general technical improvement, to be executed by the engineering staff, but also a matter of dramatizing these engineering improvements with lines, light and color.

Stations Must Have Appeal

I know from my experience in dealing with many railroads in this country that they have capable engineering staffs and architects, and that these men are entirely capable of handling all engineering and architectural questions that may arise. However, the modern tendency of streamlining to merchandise, advertise and dramatize the appeals of the railways, has presented new problems concerning which many of these men might well have assistance.

Most of the work handled in railroad engineering offices is, naturally, along purely functional lines. Quite naturally, the aesthetical side is of secondary importance in the design of a roundhouse, freight house, or other such facility. When we come to passenger stations, however, the aesthetics of the interior and exterior become of very definite importance, as in this case we are making a direct personal appeal to the traveling public, and often also to community pride. Just as in the case of the many streamlined trains on which I have collaborated with mechanical engineers to incorporate greater passenger appeal, so I have been called in to assist the construction engineer and architect to incorporate into station designs the functional advantages and increased passenger appeal of streamlining.

Our competitors, the bus and air lines, have taken great pains to locate their stations strategically and to make them as attractive as possible, both outside and inside. However, since almost every town grew up around the railroad station, we still have, in most cases, the most strategic position. We usually have well constructed and maintained buildings, but true also, they are usually very much out of style.

Don't misunderstand me. It is not my thought that every old railroad station should be torn down. Likewise, in most cases, it is not a question of improving the station by dragging modern methods and materials into the building, but rather, largely one of throwing out old junk.

I have been fortunate to have been connected with the interior and exterior design of more than 20 per

* Abstract of an address presented before the convention of the American Railway Bridge and Building Association in Chicago on October 15.

cent of the streamlined trains that are being operated in this country today. Within the limited amount of space available in the cars of these trains—in a dining car, for example, it has been my job to make the old interior look much more spacious and comfortable; to provide better lighting; and to improve the seating arrangement.

Illustrations No. 3 and 4 present the example of what was done to achieve these ends in the case of a converted dining car for the Royal Blue streamliner of the Baltimore & Ohio. The receipts of this dining car increased very substantially as a result of this conversion. If such a drastic improvement is possible in the limited space in a car, the possibilities in the larger and more flexible space afforded by buildings are obvious.

When I suggested streamlining steam or Diesel locomotives for the first time in 1927, I was criticized that my engine and train designs looked like automobiles or airplanes. What was meant as sound criticism was, actually, the boost I had been looking for. By retouching, artificial, non-existing air streams can be faked into the picture of any locomotive to suggest speed. Obviously, without such faked lines, the engine might appear to be standing still under all conditions. In the actual lines of the older locomotives there was nothing that suggested speed—it has had to be faked in in every picture. Personally, I dislike fakes, and that very fact forced me to tell the railroads from the beginning that, if you want to sell speed, do not fake it into your advertising, but go ahead and build the speed lines—or "streamlines" as we say today—into your engines, so that people can see them and sense the feeling that you really have speedy trains.

Can Be Applied to Stations

I have used the example of the steam locomotive to tell you that in the streamlining of a passenger station we must present the same drastic and dramatic eye appeal to our passengers that we have used successfully in our streamlined trains. I have heard such criticism as "the design looks like a gasoline station, a movie, a World's Fair building." To such criticism my answer must be, "That's just fine, because each of the buildings referred to was designed in modern style, with modern materials, and for one reason only—to attract customers. There can be no argument against the fact that all of them attract customers."

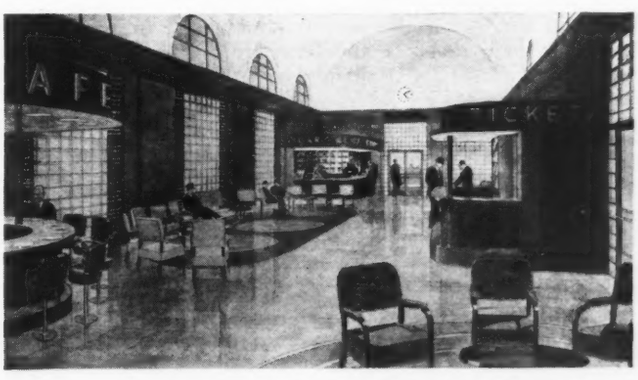
In my modern designs, I have used modern materials. I have done this conscientiously because I refuse to fake. I refuse to make wood look like steel, or steel like wood. We have learned today that we can reduce maintenance and heat losses with glass brick, even in such places as roundhouses. Instead of something to stick in a hole for transparency, glass has become a structural material. Likewise, stainless steel, aluminum, chromium

Illustrations No. 3 and 4—Which Show by Comparison What Was Done in Streamlining an Old Diner for the Royal Blue of the Baltimore & Ohio

—all of these, formerly raw materials—have been made into decorative elements that simultaneously reduce maintenance costs. Rubber, asphaltum and asbestos, in their countless colorful combinations, permit us colorful interior and exterior appearances; permanent and inexpensive to apply and to maintain. Modern lighting has endless possibilities, both functional and decorative.

The Minneapolis Station

As a typical example of what can be done with an old passenger station, I present contrast pictures of the station of the Chicago, Milwaukee, St. Paul & Pacific at Minneapolis, Minn., which was reconditioned recently under my direction, in co-operation with W. H. Penfield



Illustrations No. 5 and 6 Show What is Being Done to Modernize the Passenger Station of the C. R. I. & P. at Des Moines, Ia.

and A. O. Lagerstrom, chief engineer and architect, respectively, of that road. In this case, it was purely a matter of re-arranging the existing facilities; of throwing out a lot of benches and replacing them with upholstered chairs; of painting the interior; and of lighting the interior with fluorescent light.

Illustrations No. 1 and 2 are before and after pictures of the waiting room at Minneapolis. In the old waiting room uncomfortable benches were arranged in barricade fashion across the main traffic lanes; a news-stand and fountain spread far out into the public area; and the interior was gloomy and dingy due to improper lighting. The remodeled waiting room has a clean, sanitary news-stand and fountain set back out of the traffic lane and properly recessed; upholstered seats arranged along, instead of across the main traffic lane; well-lighted walls and ceilings; and ornamental fluorescent lighting.

What correct lighting and the use of furred plywood can do for an interior is shown in Illustrations No. 5 and 6, which show the waiting room of the Rock Island station at Des Moines, Ia., as it has existed until recently, and as it will appear when modernized. This work was developed with the co-operation of W. H. Hillis, assistant chief operating officer, and David Ruhl, engineer of buildings, and is now under way.

Other Public Facilities

When I traveled as a young engineer in Europe and looked for a boarding house I invariably asked to be shown the bathroom first. If the bathroom was clean, I would usually take up rooming as I could be reasonably sure that the rest of the house would be clean too. Toilet facilities in old stations have the same effect on many passengers. Therefore, they should be carefully improved. Gasoline stations advertise clean rest rooms to take advantage of this attitude on the part of the public.

Illustrations No. 7 and 8 show the interior of the old and remodeled women's toilet room in the Milwaukee's passenger station at Milwaukee, Wis. I am sorry that I cannot show you these facilities in their natural color. You may rest assured, however, that the usual drabness and coldness of the typical old washroom is definitely wiped out by a striking and correct color treatment.

Another point of faulty design in station design is the incorrect location of the ticket office and lack of consideration of its appearance. The ticket office should be located at the end of the main traffic lane. Today, however, in most stations, the ticket office is located somewhere in the wall and is really nothing more than a hole in the wall. To make this worse, this hole usually has a grille over it, which, in itself has a very detrimental effect upon patrons. Just imagine yourself buying a shirt, a necktie or a pair of shoes through a grille; then why should we sell tickets through a grille? An open counter, while ideal, is not always practicable because of the flexibility that a ticket office must have to take care of both slack and rush hours. In Minneapolis, we solved this situation by having window openings which can be closed off or opened with roller shutters.

The function of a modern railroad station is entirely different from what it was 30 to 50 years ago, when most of our stations were built. In those days, a man about to take a railroad trip was brought to the station in a horse-drawn vehicle, or he walked, and usually the whole family came along to see him off. It was a big event and, therefore, warranted the proper setting in a large and impressive building. Today, the man, rushed to the station by taxi or bus, hurries in and goes immediately to buy his ticket and then to get on a train. The same haste prevails when he arrives at a station.

Illustrations No. 7 and 8 Show the Interior of the Old and Remodeled Women's Toilet Room in the Milwaukee's Passenger Station at Milwaukee, Wis.

To take care of this kind of traffic is one of the functions of streamlining the station—to get patrons in quickly and to get them out quickly.

In studying the Milwaukee's station at Madison, Wis., one of the first things that struck me was the fact that there was a useless lawn in front of it. This lawn added nothing to the beauty of the surroundings of the station, and was an economic loss because it had to be maintained. I reasoned that if we paved this lawn area, we could park 40 to 50 cars. In other words, we could practically assure our patrons that they would find free parking space at this station.

A business man traveling alone in his car for a distance of 100 to 200 miles, with only his radio for company, may well be attracted to the railroads and, with a little coaching, become a steady customer. He should be told by the local passenger representative that he can have free parking at the station and that he can cover the distance on the railroad in much shorter time and in air-conditioned comfort. He should also be reminded of the greater safety as compared with the hazards of summer and winter driving on the highway, and that he will avoid the traffic delays that he would otherwise encounter when approaching and leaving large towns. It must be impressed upon him that he can save time by using the railroad. This saving in time, plus the increased safety and comfort afforded, are things that can be sold.

Today, many of our old stations are too large. We no longer need these large accommodations because of

the hurry of the passengers who "breeze" through them. This often permits the railroad to take over some of the unused areas for office space for its clerical staff, with a possible saving in rent and maintenance.

Correct lighting around the outside of an old building, besides its functional advantages, can completely change the appearance of the exterior. In some cases a well-lighted marquee can completely blot out the upper and older part of a building. Unquestionably, on rainy nights, people will be attracted to warm, glowing marquees under which to board or alight from taxis, and, incidentally, they also effectively advertise the railroad's services.

The question of whether to rehabilitate a station or to build a new one can be decided only after careful consideration of local conditions, especially the receipts at the ticket office. In this, the prospects of the future should not be overlooked. Sometimes, due to the relocation of lines or other causes, new stations must be built. As I have already pointed out, parking space is very essential. Likewise, they should be landscaped. The station building itself should have an impressive approach—I said impressive, not expensive. The correct location and landscaping of the parking space may be used to bring about this impressiveness.

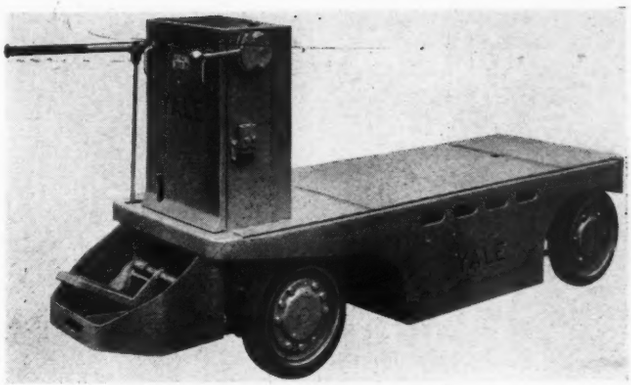
One more important point about modernizing stations, which is pleasing to both railway officers and the public—in almost every case where I have collaborated, the station personnel has increased its neatness and efficiency. In one case, for example, the porters purchased new uniforms for themselves, with their own money—they "streamlined" themselves.

Improved station locations, parking facilities, pleasing and convenient interior facilities, and the general good will of the public that can be brought about by an appeal to community pride, are important assets, which, combined with improved train service, can be used effectively to recapture lost traffic or to develop new traffic. We should all realize that through the strategic locations of our stations, through tradition and habit, and through the tremendous appeal of speed, with safety and comfort, the railways still have a strong position in transportation. At the same time, we should not forget that this position can be held only if every available modern medium is used to impress the man in the street with our services, including newspaper advertising, well-designed comfortable stations and well-designed, fast modern streamlined trains. All of these are good advertising, and advertise we must, if we are to develop new traffic and are to regain some of the traffic that we have lost.

New Electric Truck

THE Yale & Towne Manufacturing Company, Philadelphia (Pa.) division, has added a new unit, known as the KM-26, to its line of electric industrial trucks. The new machine, which is of the load-carrier type, has a capacity of 3,000 lb. and is intended for use as a general utility truck. The frame is of heavy steel plates, electrically welded at the joints, with the battery compartment placed within the wheel-base where it acts as a cross-tie member. Excluding the battery, the truck chassis weighs 1,990 lb.

The platform of the new truck is 30 in. in width (although it can be increased if specified) and 72 in. in length (although it can either be increased or decreased if specified), while the overall length is 99½ in. It is pointed out that the relatively small overall dimensions of the truck, combined with the fact that it has a four-wheel steer, produce a unit that is adapted especially to use in narrow aisles and other congested quarters. Other features of the new truck include four speeds forward and reverse, automotive-type wheels with 16-in. by 4-in. tires, Timken tapered roller bearings for all four wheels, a checkered steel load platform (smooth plates optional), couplers of the pin-and-socket type at both the front and rear, and a sponge-rubber covering, with hard rubber tread surface, for the operator's brake pedal and platform.



The New KM-26 Electric Industrial Truck

Parmelee Agents Take Course in Diction

THE 32 agents of the Parmelee Transportation Company who announce, on incoming trains and in stations in Chicago, that Parmelee passenger and baggage transfer service is available, recently completed a course in diction and conduct to improve their technique in serving patrons, and now believe that they speak better English on the job than similar employees in any other city in America. This training was undertaken following a survey made by the company, which showed that frequently the words uttered could not be understood and that often abrupt approach was distasteful to patrons.

The first step taken by the company after its survey was to purchase a sound recording and reproducing machine and to test the speech of the announcers. The results were surprising—especially to the men when they heard their announcements reproduced. The quality of the announcements in this test was judged by an officer of the company who was familiar with the words used and acquainted with the men. According to his opinion, 15 per cent of the voices were passable. In contrast, a radio announcer who was called in consultation, contended that if the public were the judge as in radio broadcasting few, if any, of the announcements were passable and that all of the announcers needed some instruction.

Since the announcers had been speaking their pieces for some time, many as long as 20 and 30 years, it was assumed that a few simple instructions under the direction of the radio announcer would produce the required improvement.

After a short trial it became apparent that the problem could be solved only by a complete understanding of the underlying principles of diction.

As a result, the company contracted with a radio actor, producer and coach to perfect not only the diction of the announcers but the character of their voices and their conduct and approach as well. The preliminary attempt to improve the voices of the men, while unproductive, was not wasted, for it gave the men an understanding of

Group and Individual Instruction Was Provided

the problem and overcame their aversion to "acting like a sissy."

The procedure followed under the contract provided for group instruction, with each man receiving special attention as required. One man attended two classes and others had to attend as many as eight. The average attendance for the group was six sessions per man.

The first instruction given the men was the vocal background of the standard course in speech, proper breathing, placing of the voice, formation of sound and position of the tongue and lips. In order to demonstrate the progress or lack of progress being made, records were made from time to time so that each man could listen to his announcement and make comparison with his first attempts. As the course progressed, the men were taught to use pleasant tones and facial expressions and dignified carriage when approaching patrons.

Southern Pacific Washes Insulators

IN ORDER to minimize severe interference, such as current leakage and "crossfire" between wires on open pole lines, due to the effects of fog, combined with dust on insulators and crossarms, the Southern Pacific has adopted the practice of washing these pole line items with water, pumped at high pressure from a water supply car.

A pole line, the property of the Western Union Telegraph Company, supporting approximately 70 wires of the two companies, extends from Oakland, Cal., for approximately 30 miles along the Southern Pacific double-track main line along the shore of San Francisco Bay. Especially in a ten-mile section of this territory, industries cause dust, soot and other foreign matter to accumulate on the insulators, pins and crossarms. Comparatively little rain falls in this territory except during the early autumn months, and, therefore, this pole line gets no natural washing during the remainder of the year. In the period from the last autumn rain to the next July, a heavy coating of dust accumulates on the insulators, pins and crossarms. This dust causes very little trouble as long as it is dry.

During the latter part of July and August, this territory is subject to heavy, wet fogs which are carried by the prevailing breezes from the bay to the pole line. When the fog dampens the dust on the insulators, pins and crossarms, a path of comparatively low resistance is established, thus greatly lowering the insulation of line wires and appreciably increasing the "cross-fire" between circuits, notwithstanding the fact that great care was exercised in maintaining the same "marking-polarity" on all wires. Between midnight and 10 a. m., operation of high-speed multiplex telegraph circuits has been seriously impaired.

In past years, various experiments were made in attempts to eliminate this trouble. A small portable pump, operated by hand, was used by a man on a pole to spray a solution on the insulators, and he then scrubbed them with a stiff brush to remove the dust. Another plan was to replace all the dirty insulators with clean ones, then wash the dirty insulators at a central location so that they would be available again for replacements. Both of these methods were too slow and expensive.

A method which is effective, as well as sufficiently economical to justify cleaning the entire ten-mile territory, has now been developed and was used last summer with excellent results. The equipment in general is similar to that used by the maintenance of way department for fighting forest fires. A water car of 10,500-gal. capacity is handled by a switch engine, this tank car being equipped with a high-pressure pump operated by steam from the locomotive. By using a hose 3 in. in diameter and a standard nozzle, sufficient pressure is available to throw a stream of water 80 ft. high. Usually the poles are 40 ft. high, and pressure at this height thoroughly washes the insulators and crossarms. Ordinarily the poles are not more than 50 ft. from the track so that a 75-ft. length of hose is sufficient, although in some locations the poles are as much as 300 ft. away and extra sections of hose are required. About 10 min. is required at each pole, and about four miles can be washed in a day. This washing is done at the beginning of the fog season, so that one washing serves to prevent trouble until the autumn rains give the pole lines a natural washing.

The Insulators Are Washed by a Stream of Water

Under the most adverse conditions of dirty insulators and fog, the escape between high-speed telegraph wires on this line has been as much as 85 to 90 volts, and the "cross-fire" from one wire to another on adjacent positions has been so pronounced that, at times, the multiplex circuits could not be operated. After the insulators have been washed, as previously explained, the escape, even during fogs, does not exceed 10 to 15 volts, and the circuits, therefore, can be operated satisfactorily.

How British Railways Aid National Defense

(*Continued from page 825*)

been overcome. Acres of glass at stations and a million and a half passenger car windows have been painted. Miles of curtains have been fitted in offices and switch towers and miles of whitewash are used for lines and signs to help passengers find their way. In spite of the blackout passengers can read in the trains; sleeping car services are available, and food rationing does not prevent the roads from running regularly several hundreds of dining and buffet cars.

Growing numbers of freight trains have, of course, made inevitable a rearrangement and slowing-down of the passenger train services. Express trains are restricted to a maximum of 60 m. p. h., and passenger trains normally running with a load of 450 tons behind the locomotive have been increased in weight to 600 and even 700 tons.

While the historic evacuation from Dunkirk is now almost a legend, the part played in it by the British railways bears re-telling. Although their regular cross-channel services to the continent were suspended at the time, they played an important part in it. Railroad-owned steamers converted into hospital vessels were quickly put to use to help in the rescue of the men of the British Expeditionary Force, as well as 120,000 French troops. Some 2,000 passenger cars drawn from the four main line roads made up into 186 trains, made 620 trips to the interior from channel ports, over 100 trains in 24 hours being operated at the peak of the movement. Chief difficulties encountered were the arrival of the troops at as many as seven ports, the extremely short notice of requirements which could be given, and the direction of the whole of the special trains carrying 300,000 men entirely by means of telephone.

The cancellation of "bank holidays," the obliteration of all station and railway names and signs (to make things hard for invaders or parachutists), and the formation of defense areas on the East and South coasts, has increased the number of questions which the public is asking at stations. In the first nine months of the war, one million inquiries were answered by telephone alone by the information staffs at two London terminals.

The calling-up of further age groups to the colors, the arrival of forces and supplies from overseas, and the growth of the defense armies, has increased the already high proportion of men and women in uniform traveling on trains. Extended accommodation is being provided for the welfare organizations at the principal stations used by the troops, and a difficulty which was accentuated by the rapid concentration of soldiers throughout the country has been relieved by the provision of extra cloakrooms, information bureaus, canteens, and rest rooms.

The roads have also given attention to the transport of seasonal foodstuffs. Some 2½ million tons of fruit and vegetables are carried from growing areas to the markets, and permission has been given for all spare land on railway rights-of-way to be cultivated this season. Special salvage campaigns, and the extended use of pre-cast concrete for railway engineering requirements to conserve steel and timber, are other railroad contributions to the national effort.

A Pair of Home Guarders Watch Over an Interlocking Plant "Somewhere in Britain"

New Books...

The Road and Rail Transport Problem, by Brig.-General Sir H. Osborne Mance. 166 pages. 8½ in. by 5½ in. Bound in cloth. Published by Pitman Publishing Corporation, New York. Price, $3.

This book is essentially a collection of the reflections and experiences of one of Britain's most distinguished students of transportation economics who wears, according to Sir Arthur Salter, the "mantle of Sir William Acworth." An American might even call him another Charles Francis Adams. Briefly, the author has made official studies of transportation problems in South Africa, East Africa, Germany and Austria as well as Great Britain, served as president of the Communications section of the Supreme Economic Council and has headed technical committees reporting to the League of Nations and International Chamber of Commerce.

His work divides itself as follows: (1) the objective of road and railroad co-ordination; (2) alternative schemes; (3) specific problems; (4) experience of other countries; (5) proposals of others and (6) immediate possibilities. From the very beginning he follows an unusually broad tack and reveals his soundness (in your reviewer's opinion) at once when he dedicates his book not only to carrier and shipper executives but as well to the taxpayer "whose long-range interests have not hitherto received the consideration due to them."

The alternative solutions to the competitive problem he considers are: (1) unrestricted competition; (2) combined monopoly of road and rail transport; i.e., common ownership of both means of transportation; (3) co-ordination of competing monopolies; (4) controlled competition, and, (5) combinations of the above. Unrestricted competition he believes would weaken all agencies and require sooner or later subsidization of indispensable services. A combined monopoly would have the obvious virtue of achieving "the scientifically correct division of function between road and rail on the basis of cost and service" but would be exceedingly vulnerable to inroads by *private* transportation. Con-

trolled competition between road and rail he sees as embodying conflicting principles of competition and monopoly and requiring arbitrary decisions to adjust contradictions therein.

There follow several excellent chapters on financial considerations, in which the author urges the principle of user-payment, stating that burdens on taxpayers might easily result "if a false policy is adopted or matters are allowed to drift too long." He sets forth some shrewd observations, including the dry comment that typical popular demands for reduced capitalization imply that "as soon as an undertaking ceases to earn profits the capital should be written down in order that wages may be raised and charges reduced." Another runs to the effect that while the maintenance of certain services at a loss might be justified as "the price of a monopoly," under a competitive regime such services should be separately paid for by the government. Of rates the author observes that the present unco-ordinated rate structures in Great Britain have been bringing about "an uneconomic division of function" and that many of the troubles in transport are due to delay in recognizing that "value and cost rate structures cannot exist side by side."

In line with General Mance's wide experience there follow a number of valuable reviews on the experience of other countries in dealing with the competitive problem, with particular attention to Germany and Northern Ireland. An interesting item in connection with the former describes the operation of the compulsory long-distance trucking association (R.K.B.) which employs a number of "tramp vehicles" on a ton-mileage basis while itself it collects the prescribed rates from shippers, a scheme which the author describes as charge to the public on a value of service basis with payment to haulers on a cost of service basis.

Characterizing the Northern Ireland pooling plan as unsuccessful, the author blames the fact on its failure to cope with private freight haulage, which carries more traffic than all common carriers put together. Incidentally, he calls attention to the fact that the Irish situation is one of virtually government-owned public motor transportation competing with private railroads.

In criticizing present proposals in Great Britain for dealing with the problem, the author finds their chief flaws lie in ignoring private transportation by automobile and truck; evading controversial issues and failing to set up effective political machinery for carrying out proposals. While he does not present a plan of his own, he throws out a number of leading ideas under the heading of "composite scheme" which he believes can be worked out under present conditions (the book was written before declaration of war). Chief among these key ideas are a compulsory association of truckers; relaxation of "undue preference" restrictions in railroad rate proposals; and a novel scheme of pooled fixed charges and competition in direct operations. Briefly, this latter plan would provide that the fixed costs of all approved means of transport be pooled, in order to give equality to all types and prevent taxpayer's subsidies, while "road and rail could be left to compete on the basis of their variable costs." This idea the author does not explain to our complete satisfaction, probably because he did not intend it as a fully-matured hypothesis, but rather as a proposal needing the discipline of expert criticism to bring it to perfection.

Here is a book which merits the attention of all serious students of transportation and ought to be required reading, certainly, for the transport commission to be set up under the new transportation act; and all the regulatory and taxing authorities ought to be familiar with it too.

The Use of Transportation Facilities in the Chicago Fruit and Vegetable Market, by Edward A. Duddy and David A. Revzan. 86 pages. 9½ in. by 6¼ in. Bound in paper. Published by the University of Chicago Press, Chicago, Ill. Price, $1.

This modest study is the result of an intensive analysis of the functioning of railroad wholesale fruit and vegetable terminals in Chicago and estimates from available data of their future importance and character. The authors have evidently executed a great deal of "leg-work" in unearthing the facts, if the originality of their data is any indication.

The coverage of the monograph is as follows: (1) measurement of the degree of and efficiency in use of the facilities; (2) an analysis of demurrage charges for fruits and vegetables arriving by rail in 1938; (3) the diversion or reconsignment of fruits and vegetables from Chicago in relation to the use of terminal rail facilities; and (4) the future requirements of the market for terminal transportation facilities. The analysis proper deals entirely with use of railroad transportation facilities, although competitive factors are touched on for comparison.

The study goes into some detail on the use of railroad cars by jobbers as warehouses, and arrangement of yards for services extraneous to transportation. In 1938, for example, one out of five inbound cars incurred demurrage, indicating holding after 48 hours free time. Likewise it makes some important observations as to the importance of diversions and reconsignments, finding that they have increased steadily from 36.6 per cent of total railroad car arrivals in 1931 to 46.1 per cent in 1939. This increase is evident both in absolute numbers and as a proportion of total arrivals. Rather exhaustive studies of seasonal variation in the use of facilities indicate that such variation has tended to level out during the last decade. Motor truck unloads, on the other hand, show a much greater range of seasonal variation.

Other random interesting findings in the book are that railroad facilities at Chicago have suffered less from diversion to trucks than in the country as a whole and estimates of truck shipments to the city have shown no tendency to increase rapidly in absolute volume or as a percentage of total unloads. On the other hand, the flexibility of trucks has increased direct delivery to secondary markets and reduced the importance of Chicago middlemen and of city terminals generally.

A total of 43 tables present the underlying data of the study in handy form for comparison.

Reconstruction Finance Corporation Loans to the Railroads, 1932-1937, by Herbert Spero. 179 pages. 9¼ in. by 6¼ in. Bound in cloth. Published by the Bankers Publishing Company, Cambridge, Mass. Price, $3.50.

Valuable principally for its statistics of railroad relations with the R.F.C., this study is also useful for the way in which it shows the gradual change of opinion as to the purposes of the corporation and what it should do for the carriers, as reflected in the statements of interested experts. The changes in its loan policies and terms as provided in the Emergency Transportation Act of 1933 and amendments to the act creating the R.F.C. in 1935 are also succintly covered.

Mr. Spero demonstrates that the corporation, at its creation in 1932, was thought of as a temporary "tide-over" agency principally to loan railroads money for interest and maturity payments, expecting "prosperity just around the corner." A little later it emphasized pump-priming ends, illustrated by the Pennsylvania's electrification loan. But by 1934 it was recognized that the Corporation would have to work on a more permanent basis and look to the long-run interest of the railroads. It was then that its policy of purchasing railroad securities was initiated, thereby making the government an important creditor in reorganization proceedings.

In this connection the author reviews in detail the well-known Rock Island decision, which restrained the R. F. C. from selling its collateral in order "to get out from under." Special discussions are devoted to a number of carriers which borrowed heavily from the R.F.C. and subsequently went broke, comprising the Frisco, C. & E. I., New Haven, Missouri Pacific, Milwaukee, D. & R. G. W., and C. & N. W. Among other things, types of loans are covered, earnings of the road summarized and significant excerpts from I. C. C. decisions quoted.

The author finds that more than 50 per cent of the total money —$719,984,768—loaned to the roads in the period covered was granted for the discharge of maturities and interest payments. The larger portion of the above was approved during the first 21 months of the corporation's life, indicating its status at the time as a supporter of the existing debt structure. The broadening of its powers in later years the author reviews with considerable alarm, believing that continuance of government credit will result in its further encroachment in the railroad field. On the whole it is his opinion that bankruptcy would be more salutary.

THE NEW YORK, NEW HAVEN & HARTFORD reports that vacation travel to New England over its lines was about 10 per cent greater this past summer than that of a year ago. Passenger Traffic Manager A. H. Seaver points out that more than 1,000 all-expense "Pilgrim Tours" were sold during the season and that on the whole patrons of the tours chose longer and more expensive trips than heretofore.

NEWS

Sees RR Profit in Red Cap Fees

Fleming, wage inquisitor, alleges station co. earns net from porters' takings

Responding to a request from the resolution's sponsor, Colonel Philip B. Fleming, administrator of the Wage and Hour Division, United States Department of Labor, has made some preliminary inquiries in connection with the investigation of the "red cap" situation which he would be called upon to pursue if the Senate should adopt Senate Resolution 325 introduced recently on behalf of Senator Thomas, Democrat of Utah. As noted in the *Railway Age* of October 19, page 562, the Thomas resolution calls for a probe of practices adopted by railroads and terminal companies as a result of the application of the minimum-wage provisions of the Fair Labor Standards Act to "red caps."

Into the appendix to the November 19 issue of the Congressional Record Senator Thomas inserted a reply he had received from Administrator Fleming to a letter wherein the senator, as Colonel Fleming put it, had recommended that "pending Congressional action on Senate Resolution 325, this Division should make preliminary investigations concerning the problem of the payment of wages to 'red caps.' . . ." The administrator thought that the senator would be interested to know that investigations had been made at Grand Central Terminal, New York, and at the Washington, D. C., station. The report on the former had not been received by Colonel Fleming when the letter was written; but a preliminary report on the Washington Terminal Company disclosed what he called "some rather unusual circumstances."

The administrator proceeded to highlight the latter, stating that prior to the October 24, 1938, effective date of the Fair Labor Standards Act the "red cap" service at Washington "was sustained wholly by tips or gratuities." Nor does there appear to have been any cost of the service to the Terminal Company, since the "red caps" were "even required to purchase and maintain, at their own expense, uniforms meeting the specifications of the company." During the period from October 24, 1938, until April 14, 1940, "when the so-called accounting and guarantee agreement was in effect," the report showed that total tips received by the "red caps" amounted to $195,730.12, "or $584.54 less than the total minimum wages due the 'red caps' under the act."

"The company," Administrator Fleming went on, "took credit for the tips and paid the 'red caps' $584.54 on account of its 'guarantee' of the minimum wage. Notwithstanding the records of the company show such credits for tips and cash payments by the company to each 'red cap' in total payment equal to the minimum-wage requirement, minimum-wage violations appear to have occurred by reason of the fact that the company unlawfully deducted from said total sum the cost of the 'red cap's' uniform and maintenance thereof, and also liability for lost baggage."

Coming to the period from April 15, 1940, to the present time, when the Washington Terminal Company has provided "red cap" service in accordance with the plan whereby the porters are paid the minimum wage in cash and required to collect on behalf of the company a charge of 10 cents per bag carried, Colonel Fleming reports that the Terminal Company has been making money on the deal. He referred to records showing that from April 15 until September 30 this year, the "red caps" have collected $94,677.33, while the Terminal Company's wage payments to the porters have totaled $71,799.84. Thus the administrator calculated that the "gross profit" to the company for this period of five and one-half months was $22,877.49, or $4,159.54 per month.

He mentioned the company's claim that its "net profit" was only $14,950.23 or $2,718.22 per month, but continued to talk in terms of gross profits, saying: "If this profit were maintained over a period of a year, the gross annual profit of the one company in operating the 10 cents a parcel plan would be approximately $50,000. This is contrasted with a net loss to the company of $584.54 in the year and a half following the effective date of the act when the 'red caps' were required to report their tips and the company was required to make up any deficiency in minimum wages."

Concluding his letter, Colonel Fleming promised an early report on the Thomas resolution, which report will "deal more fully with the conditions and practices of employment of 'red caps' at the Washington Terminal Company, as well as at the Grand Central Terminal Company."

C. N. R. October Revenues

The Canadian National in October had gross revenues of $22,984,979 (an increase of $1,041,824). Operating expenses were $17,743,657 (up $1,254,350). Net operating income was $5,241,322 (down $212,526). For the ten months ended with October gross revenues were $201,400,970 (an increase of $37,211,878). Expenses were $168,191,332 (up $16,108,442). Net operating income was $33,209,638 (an increase of $21,103,436).

RRs File Brief on Truck Sizes

Questions whether interest of big truck operators takes precedence over public's

"The position of the railroads is that federal regulation of sizes and weight of motor vehicles moving in interstate commerce is neither necessary nor desirable in the public interest," according to the statement filed on behalf of the Association of American Railroads and the American Short Line Railroad Association in the Interstate Commerce Commission's Ex Parte No. MC-15 investigation of the subject. The mandate directing the commission to make this study of the need for federal regulation of sizes and weights came in the Motor Carrier Act, and the Transportation Act of 1940 authorized and directed the commission to expedite the matter.

As noted in *Railway Age* issues of September 7 and November 2, the commission has recently made public five preliminary reports which were prepared by members of the staff of the Bureau of Motor Carriers from some of the material gathered thus far in the proceeding. The deadline for the filing of statements of comment and criticism on these preliminary reports was November 25, the day on which the railroad brief was submitted. Including the appendices it is a 171-page document; the general statement and argument covering 111 pages is signed by A. A. R. President J. J. Pelley and J. M. Hood, president of the Short Line Association. In support of their aforementioned position, Messrs. Pelley and Hood claim in their conclusions to have shown that:

1. The real issue before the commission in this case is whether or not the operation of motor vehicles of greater size and weight than allowed by state laws is so necessary to the transportation needs of the country as a whole as to justify federal intervention and federal prescription as to the limitations of sizes and weight of motor vehicles that should be permitted to operate on state owned and maintained highways.

2. "Need" for federal regulation of sizes and weight requires an affirmative showing (1) of public, as contrasted with private, need; (2) of the inadequacy of transportation services now available to meet all reasonable needs of the community; (3) reasonableness of the demand; and (4) the justification of costs entailed. No such showing has been or can be made.

3. The railroads are interested parties in this case because (a) they are heavy tax-

(*Continued on page* 846)

Still After 50-Ft. End-Door Cars

Kendall repeats admonition to get cars for handling big Army truck order

Having found out that the government trucks being built at the Pontiac (Mich.) plant of the Yellow Coach & Truck Manufacturing Company can be loaded into box cars with end door openings less than 8 ft. 6 in. wide, the Car Service Division on November 19 issued Supplement No. 3 to Special Car Order No. 42, making that order applicable to 50-ft. box cars with end doors 8 ft. 1 in. or wider. The order, as noted in the *Railway Age* of November 2, page 659, is designed to take care of these government truck loadings which will require upwards of 3,500 cars of the aforementioned dimensions before December 31, and an additional 3,000 cars before April 30, 1941.

In the circular embodying Supplement No. 3 Chairman W. C. Kendall of the Car Service Division asserted that "With the number of cars owned and the repeated admonitions broadcast as to the essential nature of this traffic there appears to be no excuse for any failure to protect this loading adequately." He added that "outlets have been provided for the unrestricted delivery of these cars to the Grand Trunk Western or to intermediate road or roads in bridge movement"; and that "it is the imperative duty of every railroad to divert to this service all cars on line to which this order applies, and to promptly return empty in service route after release all cars received loaded with government trucks."

The circular went on to say that the Pontiac order is now in production at the rate of approximately 130 trucks or 65 carloads per day. A rate of 170 trucks daily is impending, a total of 13,000 trucks being involved. When the supplement was issued on November 19 the car supply at Pontiac was described as insufficient to fully meet requirements. However, L. M. Betts, manager of the Car Service Division's Closed Car Section, stated on November 23 that the railroad response had been very good; and that an "adequate" supply of the required cars (216 of them) was reported on hand at Pontiac on November 22.

But the demand for the cars will soon be augmented when the Diamond T Motor Company, Chicago, starts production on a government order for similar trucks. Shipments on that order, Mr. Kendall said, will be at the rate of about 10 carloads per day; while "other smaller government orders at scattered points require some cars of this type." "Thus," the Car Service Division chairman concluded, "the necessity for close supervision to insure proper handling of these Order 42 cars cannot be too strongly emphasized. *They must not be used for any freight that does not absolutely require an end door car of fifty-foot length.*"

Meanwhile, another circular also issued by Mr. Kendall on November 19 pointed out how the exclusion from general service of the 50-ft. end-door cars covered by Order 42 "has resulted in a material tightening up in the car supply available for ordinary 50-ft. box car requirements." He anticipates some relief as a result of the present seasonal decline in box car loading, but he nevertheless foresees the demand for large cubical capacity box cars continuing at a rate which will require conscientious observance of outstanding admonitions respecting the handling of 50 cars.

Recently Mr. Kendall's attention has been directed specifically to difficulties in taking care of originating traffic experienced by the Minneapolis, St. Paul and Sault Ste. Marie; Atchison, Topeka & Santa Fe; Chicago, Milwaukee, St. Paul & Pacific; Great Northern; Northern Pacific; Southern Pacific; Union Pacific; Western Pacific; Louisiana & Arkansas; Texas & Pacific; Atlantic Coast Line; and Seaboard Air Line. "There is no thought," Mr. Kendall said, "that this is a complete list of all tight 50-ft. ordinary box car situations, but these do represent the more recent instances cited to our attention. Direct connections of the railroads specifically named herein are requested to exercise particular diligence in the return of these ownerships to the home roads. Three years ago it was necessary to issue a special order severely restricting the use of 50-ft. box cars by other than owner roads; it is hoped that full compliance with these suggestions will avoid the necessity for similar measures in the immediate future."

White Becomes Lackawanna President

John M. Davis, president of the Delaware, Lackawanna & Western since 1925, was elected chairman of the board, a position vacant for a number of years, at a meeting of the board on November 27, and William White, vice-president and general manager of the Virginian, was elected president of the road to succeed Mr. Davis.

Mr. Davis, who marked his 69th birthday on November 5, served with a large number of roads in all sections of the country and reached a prominent position in the railway supply business before he became head of the Lackawanna. Mr. White started his railroad career with the Erie in 1913 and becomes one of the country's youngest chief railway executives at the age of 43.

Car Department Accomplishments and Responsibilities—Correction

The discussion of Car Department Accomplishments and Responsibilities published on page 794 of the November 23 issue of the *Railway Age* was presented by V. R. Hawthorne, secretary, Mechanical Division, A. A. R., before the meeting of the Car Department Association of St. Louis held on November 19 at St. Louis, Mo. Mention of Car Department Association of St. Louis was inadvertently omitted from the discussion as published in the *Railway Age*.

Argument on RR Minimum Wages

Contended that basic minimum should cover all transport, not just railroads

The charges that the railroad carrier industry committee had misconstrued the Fair Labor Standards Act in recommending a 36-cents an hour minimum for Class I carriers and a 33-cent minimum for short lines and that the Administrator should have appointed an industry committee which represented the entire transportation industry instead of only the railroad phase of it were voiced by F. H. Moore, general counsel for the Kansas City Southern, during the final oral argument before Colonel Philip B. Fleming, Administrator of the Wages and Hour Division of the United States Department of Labor, on November 25. The Administrator will now take under advisement the industry committee's 36 and 33 cent recommendations and the protests of various lines and either refuse to accept the recommendations and appoint another committee or promulgate either the committee's findings or a modification thereof.

Others taking part in the oral argument included R. C. Stovall, president and general counsel of the Columbus & Greenville; F. L. Nicholson, chief engineer of the Norfolk Southern; Russel B. James, assistant general attorney for the Chicago, Burlington & Quincy; C. D. Cass, counsel for the American Transit Association, Texas Electric, Chicago, North Shore & Milwaukee, and Chicago, Aurora & Elgin; and Bruce E. Dwinell, William T. Joyner, and Daniel P. Loomis, counsel for certain Class I carriers who are members of the Association of American Railroads.

After pointing out to the Administrator that the railroad industry is in poor financial condition and that this condition has been aggravated by the recent enactment of the railroad retirement taxes and the railroad unemployment insurance taxes, Mr. Moore went on to charge that the industry committee misconstrued the Fair Labor Standards Act by failing to give consideration to the economic condition of the railroad industry. He then asked the Administrator whether it wouldn't be wise to give the railroads a chance to recuperate and adjust themselves to changed conditions before saddling on them new costs in the form of a higher minimum wage.

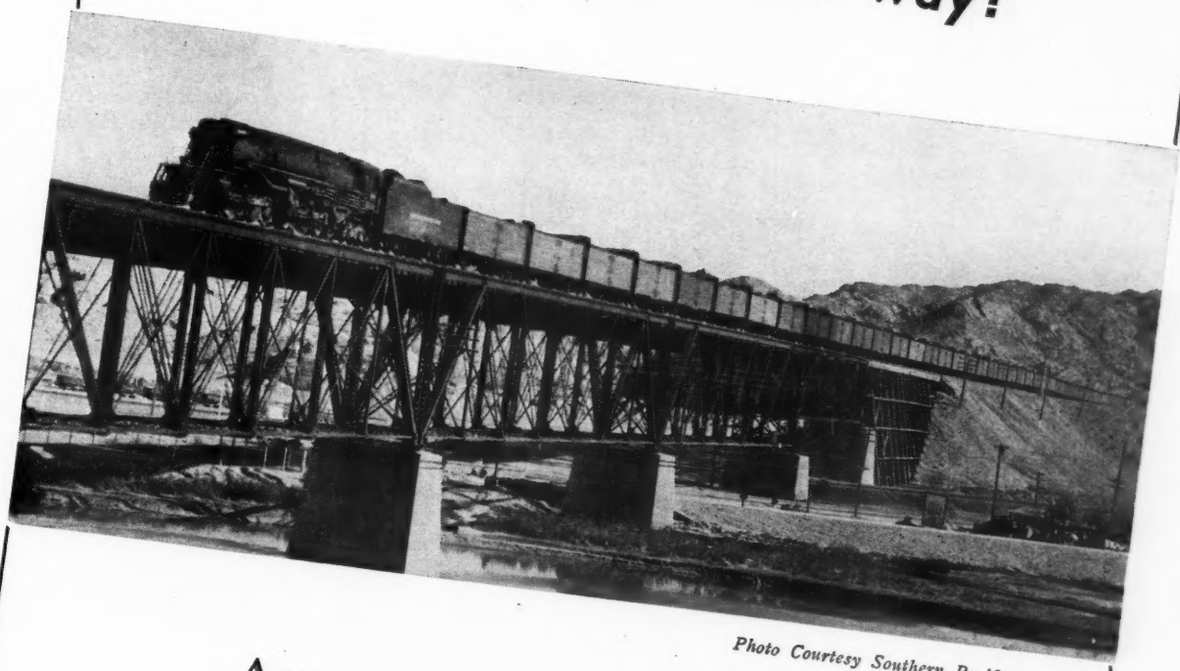
Asserting that the committee paid no attention to the cost of living in the various parts of the country, Mr. Moore went on to say that the record before it would have justified a special classification for the railroads in the south and west. It was Mr. Moore's position that there is no justification for an increase above 30 cents an hour at this time.

It was at this point in his argument that the K. C. S. general counsel advanced the theory that the Administrator should have appointed a transportation committee to consider the wage rates in all the transport industries rather than appointing one exclusively for the railroads. It was his argument that if the wage rates of the other

Continued on next left-hand page

ARE YOU MEETING THE INCREASE IN TRAFFIC

the most economical way?



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forms of transportation are not similarly regulated, the order of the Administrator will be in conflict with the provisions of the Fair Labor Standards Act. Mr. Moore also contended that tht proposed order of the committee will result in a substantial curtailment of employment, one of the results which the Administrator must find will not result from his order before he can put it into effect.

Mr. Stovall protested the 33-cent minimum for short lines, telling Colonel Fleming that his company would not be able to pay that wage, which would constitute a three-cents an hour increase over their present wage rate for unskilled workmen. He felt that the classification of his road by the committee was unreasonable and would constitute the taking of property without due process of law. He intimated that the constitutional issue might be raised at a later date.

Mr. Nicholson did not know how his road would be able to meet the increase, which, he said, would raise their wage rates considerably above the normal rate for unskilled workmen in the road's territory. If the wage order is promulgated, he wanted the Administrator to classify his company as a short line rather than as a Class I road as it is now classified. "In reality," he said, "we are nothing more than a short line, anyway."

Mr. James, who appeared for several western lines besides the Burlington, told the Administrator that he was interested only in having the order exclude all employees of railroad motor carrier affiliates.

Mr. Cass took the position that because the Wage and Hours Division had introduced no reliable data into the record on the subject of electric and suburban and street railways, the Administrator had no grounds for issuing a wage order affecting them. Mr. Cass referred to the fact that several times during the hearing counsel for the Administrator had made corrections in data on electric railways. He objected to the Wages and Hours Division using the electric railway listing of the Railroad Retirement Board and asked the Administrator to reject the committee's findings and reclassify the electric and suburban railways.

Status of R. F. C. Rail Loans

The monthly financial statement of the Reconstruction Finance Corporation as of October 31 shows disbursements to railroads (including receivers) of $779,873,022 and repayments of $309,980,621.

Bill Would Extend Retirement-Act Credits for Military Service

Representative Crosser, Democrat of Ohio, has introduced H. R. 10686 to amend the Railroad Retirement Act to extend the crediting of military service thereunder.

Partial Reorganization Plan Placed in Effect on Mexican Railways

Following the rejection by the Mexican government of a reorganization plan suggested by the Union of Railroad Workers of Mexico, as reported in the *Railway Age* of November 2, page 654, a partial plan has been made effective which provides for yearly savings of 360,000 pesos in fuel consumption; 1,050,000 pesos in per diem charges; 720,000 pesos in non-professional illness payments to employees; 1,000,000 pesos in overtime payments; 150,000 pesos in road expense and 180,000 pesos in stationary expense. At the same time, the Mixed Commission of Appelations was abolished and now workers appeal directly to the Board of Conciliation and Arbitration through the Union.

Rule G Being Scrapped?

A Pennsylvania engineman who, by the testimony of his fireman and conductor, tried to operate a locomotive while intoxicated, has nevertheless been ordered reinstated with compensation for wages lost during his suspension from service by the First Division of the National Railroad Adjustment Board in a referee decision handed down on November 12, according to a statement issued by the railroad.

Although the engineman was said to have been dismissed on several previous occasions for similar infractions of the rules and his own colleagues found him on the occasion in question unable to climb into the cab unaided, the Board "tortured the rule regarding a fair and impartial trial" and concluded that "the failure of the carrier to comply with these requirements nullifies the action taken and the penalty imposed." It was ordered that the claimant be re-instated with seniority rights unimpaired, with pay for all time lost after March 1, 1939.

Club Meetings

The Southern & Southwestern Railway Club will hold its next meeting at the Ansley hotel, Atlanta, Ga., on January 16 at 10 a. m. A paper entitled "Advancement in the Braking of High Speed Trains" will be presented by C. D. Stewart, chief engineer, Westinghouse Air Brake Company, Washington, D. C.

The Traffic Club of Newark, N. J., will hold its next meeting at the Robert Treat hotel on December 2. Its next traffic club forum is scheduled for December 9.

St. Louis Terminal Dedicates New Interlocking Machine

A new $550,000 interlocking machine and tower were dedicated by the Terminal Railroad Association of St. Louis on November 30 when a special train carrying 100 guests was operated from the Union station to the tower, where ceremonies, officially placing the machine in service, were held. The new interlocking machine and the three-story tower which houses it replace the equipment destroyed by a fire in Tower No. 1 on July 22, as reported in the *Railway Age* of August 3, page 171.

I. C. C. Issues Regulations for Motor Carrier Mergers

The Interstate Commerce Commission has issued regulations governing the filing of applications for merger, purchase, lease, contract to operate, or acquisition of control through the ownership of stock, of motor carriers in conformity with provisions of the Transportation Act of 1940. The regulations apply to motor carriers and are issued under authority of section 5 of the new Act, which gives the commission power to pass on the mergers of railroads, motor carriers, and water carriers.

The new regulations carry the title numbers, Form BMC-44 and Form BMC-45, the former dealing with mergers, purchases, leases, or contracts to operate properties, while the latter has to do with applications to acquire control of a motor carrier through the ownership of its capital stock.

R. E. A. Asks Reconsideration of Its Status

Relying on changes in the Motor Carrier Act of 1935 brought about by the enactment of the Transportation Act of 1940, the Railway Express Agency, Inc. has petitioned the Interstate Commerce Commission for a reconsideration of Division 5's decision determining its status under Part II of the act. In that decision, which was reviewed in the *Railway Age* of January 13, page 137, Division 5 found that certain of R. E. A.'s motor carrier activities came under Part I while the remainder came under Part II. The Agency has previously asked for a reconsideration of Division 5's action, but the full commission denied its petition last May.

Rates on Paper to and Between Points in the Southwest

The Interstate Commerce Commission, Division 2, has found not justified a proposal of the railroads to revise rates on paper and paper articles between points in the Southwest, and from Western Trunk Line, Official and Southeastern territories to the Southwest. The suspended schedules, embracing both increases and reductions, were ordered canceled.

The proceeding's title case is docketed as I. & S. No. 4569. The railroads contend that the proposed revision would produce a better rate adjustment, eliminate prejudicial situations and result in rates not in excess of reasonable maxima. They proposed the revision because of their alleged inability to publish rates to Southwestern territory under conditions imposed by the commission in granting relief from the provisions of the fourth section.

Pullman Places 50 New Cars in P. R. R. Service

A total of 50 new sleeping cars have been assigned by the Pullman Company to 17 leading trains on the Pennsylvania as its latest addition to the "Blue Ribbon" sleeping car fleet. Of the total, 33 cars contain 10 roomettes and 5 double bedrooms each; four have 12 duplex single rooms and 5 double bedrooms and 13 are fitted with 6 double bedrooms and a buffet-lounge section.

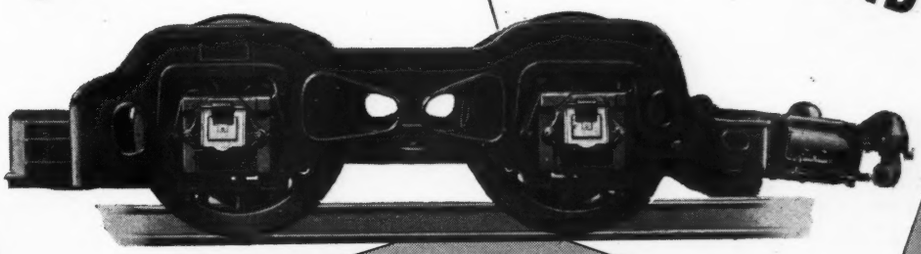
It is pointed out that delivery of the new sleeping cars raises the number of units of Pullman equipment operated on the Pennsylvania to 964 out of a total of approximately 7,000 Pullman cars in the country. Of those utilized on the Pennsylvania 712

Continued on next left-hand page

Take your Choice!

either **MORE SPEED WITH THE SAME LOAD**

or **THE SAME SPEED WITH A HEAVIER LOAD**



Railroads that have installed Locomotive Boosters* have the opportunity of making this decision. Some have decided in favor of increased pay-loads . . . others for greater speed. No matter which way you decide, your operating sheets will vouch for the wisdom of installing the Booster.

The Booster, by capitalizing idle weight and spare steam, enables you to make quicker starts with your existing loads or to start heavier loads and maintain the same schedules. Install the Booster and make the decision that so many other progressive railroads have made.

*Trademark Registered United States Patent Office

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO MONTREAL

are assigned exclusively to trains originating or terminating on its line and the remaining 252 cars are operated in joint service.

Competitive Phase of Protective Service Case Reopened

Acting upon a November 9 petition of certain of the respondents, the Interstate Commerce Commission has reopened the No. 20769 proceeding involving charges for protective service to perishable freight for further hearing to receive evidence concerning the effect of the mandatory charges for refrigeration services under section 4 of the Perishable Protective Tariff upon the ability of rail carriers to obtain perishable traffic in competition with trucks.

The reopening order also amends in certain particulars the original order which accompanied the report on further hearing, noted in the *Railway Age* of November 9, page 692. As noted in the issue of November 16, page 773, the "Big Four" packers have filed suit to enjoin the railroads from applying to fresh meats and packing house products the charges for protective service required by the commission.

Loading and Unloading Charges at St. Louis Stock Yards

Examiner Paul O. Carter has recommended in a proposed report an Interstate Commerce Commission finding that charges assessed and collected by the St. Louis National Stockyards Company from November 10, 1935, to June 1, 1940, and by the East St. Louis Junction Railroad Company, since June 1, 1940, for the loading and unloading of interstate rail shipments of livestock have been and are unreasonable. The assailed charges for loading or unloading are $1.25 per single-deck car and $1.50 per double-deck car; the examiner would have reasonable charges for the future prescribed at not in excess of $1.10 and $1.25, respectively, and he would adjust to that basis the charges on shipments handled on and after November 10, 1935.

The proceeding is docketed as No. 27737, Baltimore & Ohio Railroad Company et al. v. St. Louis National Stockyards Company and East St. Louis Junction Railroad Company.

Steps Taken to Form Motor Carrier Committee

The Wages and Hours Division of the United States Department of Labor has taken the first steps to set up an industry committee for the motor carrier industry in order that a determination may be made as to what shall constitute the minimum wage for that industry under the provisions of the Fair Labor Standards Act. Officials of the Wages and Hours Division conferred last week with representatives of the motor carrier industry in an attempt to decide on a definition of what constituted the motor carrier industry.

As originally drafted the definition would include both property and passenger carriers, with a single committee handling both types as one industry. However, it has been learned that the motor carrier representatives opposed a single committee because of the wide variance in conditions, types of service, types of employees, and unions. It was their contention that there would be much overlapping of testimony and wasted time in attempting to fix a minimum wage for both types of service.

The meeting agreed to permit the motor carrier operators to submit their views to the Wages and Hours Division, but the final decision as to how many committees there shall be rests solely with the Administrator of the Wages and Hours Division.

August's Net Income Was $21,724,923

Class I railroads reported for August a net income after fixed charges of $21,724,923, as compared with a net income of $10,240,043 in August, 1939, according to the Interstate Commerce Commission's monthly compilation of selected income and balance sheet items. The year's first eight months showed a net income of $26,917,908 as compared with a net deficit of $73,016,847 for the first eight months of 1939.

August's statement shows for the first time the income and balance sheet items for those roads not in receivership or trusteeship. These roads had a net income for August of $26,990,994 as compared with $19,748,070 for the same month of last year; while the net income for the first eight months of this year was $99,733,912 as contrasted with $21,099,396 for the same period last year.

Seventy-two roads reported net incomes for August, while 57 reported net deficits; in August, 1939, there were 69 net incomes and 60 net deficits. For this year's first eight months 60 reported net incomes and 69 had net deficits, as compared, respectively, with 51 net incomes and 78 net deficits

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS IN THE UNITED STATES

Compiled From 132 Reports (Form IBS) Representing 137 Steam Railways
(Switching and Terminal Companies Not Included)

ALL CLASS I RAILWAYS

For the month of August		*Income Items*	For the eight months of	
1940	1939		1940	1939
$66,014,793	$54,567,357	1. Net railway operating income	$366,257,821	$269,187,185
10,670,607	10,433,058	2. Other income	93,092,665	89,328,422
76,685,400	65,000,415	3. Total income	459,350,486	358,515,607
2,123,706	1,845,513	4. Miscellaneous deductions from income	16,870,588	15,576,107
74,561,694	63,154,902	5. Income available for fixed charges	442,479,898	342,939,500
		6. Fixed charges:		
12,403,464	12,248,481	6-01. Rent for leased roads and equipment	91,282,057	90,502,666
38,356,056	38,573,240	6-02. Interest deduction[1]	307,553,322	308,699,235
118,973	131,970	6-03. Other deductions	1,015,181	1,062,409
50,878,493	50,953,691	6-04. Total fixed charges	399,850,560	400,264,310
23,683,201	12,201,211	7. Income after fixed charges	42,629,338	*57,324,810
1,958,278	1,961,168	8. Contingent charges	15,711,430	15,692,037
21,724,923	10,240,043	9. Net income	26,917,908	*73,016,847
17,256,061	16,873,945	10. Depreciation (Way and structures and Equipment)	136,502,522	134,617,363
6,903,907	3,399,688	11. Federal income taxes	34,488,814	15,536,167
1.47	1.24	Ratio of income to fixed charges (Item 5 ÷ 6-04)	1.11	.86
		12. Dividend appropriations:		
13,162,485	12,743,678	12-01. On common stock	54,603,729	50,032,195
2,641,466	2,641,302	12-02. On preferred stock	14,652,370	12,852,758

Selected Asset and Liability Items[2]	All Class I Railways Balance at end of August 1940	1939
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$576,922,963	$636,031,526
14. Cash	536,636,188	464,097,038
15. Demand loans and deposits	35,192,770	19,697,402
16. Time drafts and deposits	27,531,387	21,410,084
17. Special deposits	90,027,755	60,238,012
18. Loans and bills receivable	2,507,015	1,519,476
19. Traffic and car-service balances receivable	65,917,666	58,298,117
20. Net balance receivable from agents and conductors	49,259,104	47,473,013
21. Miscellaneous accounts receivable	126,031,148	117,747,371
22. Materials and supplies	340,959,508	308,863,105
23. Interest and dividends receivable	17,787,867	16,231,828
24. Rents receivable	1,228,138	1,244,606
25. Other current assets	7,131,934	7,199,558
26. Total current assets (items 14 to 25)	$1,300,210,480	$1,124,019,610
27. Funded debt maturing within 6 months[3]	$71,339,395	$168,144,217
28. Loans and bills payable[4]	$159,895,368	$207,476,661
29. Traffic and car-service balances payable	85,189,548	79,043,347
30. Audited accounts and wages payable	239,726,550	230,587,349
31. Miscellaneous accounts payable	59,978,673	60,925,051
32. Interest matured unpaid	21,883,932	23,743,490
33. Dividends matured unpaid	1,394,031	1,564,247
34. Unmatured dividends declared	17,983,616	14,306,333
35. Unmatured interest accrued	86,421,330	85,591,822
36. Unmatured rents accrued	24,190,996	25,204,005
37. Other current liabilities	39,889,749	29,425,186
38. Total current liabilities (items 28 to 37)	$736,553,793	$757,867,491
39. Tax liability (Account 771):		
39-01. U. S. Government taxes	83,480,565	57,863,264
39-02. Other than U. S. Government taxes	156,673,902	164,085,269

[1] Represents accruals, including the amount in default.
[2] 1939 figures for certain liability items have been revised, for comparative purposes, to conform with changes prescribed in the Uniform System of Accounts by Commission's order of December 6, 1939, effective January 1, 1940.
[3] Includes payments of principal of long-term debt (other than long-term debt in default which will become due within six months after close of month of report.
[4] Includes obligations which mature not more than 2 years after date of issue.
* Deficit or other reverse items.

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No. 131 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

Photo by Vernacci, from "Bridges" by Charles S. Whitney

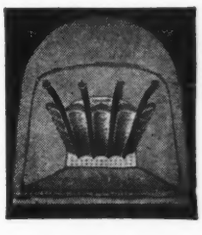
17th CENTURY BRIDGE
RONDA, SPAIN

One of the more interesting bridges constructed during the Seventeenth Century is the one built at Ronda, Spain. This structure, which bridges the chasm in the foreground, is an outstanding example of the Renaissance Period, during which time bridge design in Europe went through a period of architectural refinement. Although the forms were new, the basic structure of the bridges was about the same as those of the Romans. » » » Equally interesting to railroad men is the Security Sectional Arch. Although the basic design, which was introduced to the railroads 31 years ago, remains the same, it has been continuously developed to keep pace with locomotive design, and is today the standard on American Railroads.

There's More to SECURITY ARCHES *Than Just Brick*

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.

Locomotive Combustion Specialists

NET INCOME OF LARGE STEAM RAILWAYS

(Switching and Terminal Companies Not Included)

Name of railway	Net income after depreciation		Net income before depreciation	
	For the eight months of 1940	1939	For the eight months of 1940	1939
Alton R. R.	*$1,429,798	*$1,005,148	*$1,256,361	* $833,844
Atchison, Topeka & Santa Fe Ry. System ø	3,457,329	2,241,925	11,431,614	10,121,457
Atlantic Coast Line R. R.	* 687,878	* 465,911	679,473	923,620
Baltimore & Ohio R. R.	126,891	* 5,876,167	4,944,732	* 1,091,829
Boston & Maine R. R.	419,900	* 446,880	1,387,875	583,171
Central of Georgia Ry.†	* 1,702,795	* 2,004,162	* 1,134,529	* 1,436,534
Central R. R. of New Jersey†	* 2,421,207	* 2,709,408	* 1,499,309	* 1,774,959
Chesapeake & Ohio Ry.	23,021,429	12,283,482	28,645,803	17,782,152
Chicago & Eastern Illinois Ry.†	* 1,195,986	* 1,333,519	* 792,282	* 937,512
Chicago & North Western Ry.†	* 6,461,872	*10,208,376	* 3,158,068	* 6,905,719
Chicago, Burlington & Quincy R. R.	* 1,076,252	* 1,235,977	2,443,883	2,236,766
Chicago Great Western R. R.†	* 680,730	* 493,511	* 305,799	* 135,598
Chicago, Milwaukee, St. Paul & Pacific R. R.†	* 9,745,848	*13,986,027	* 5,778,258	*10,129,832
Chicago, Rock Island & Pacific Ry.†	* 5,570,596	* 6,939,495	* 2,801,318	* 4,206,941
Chicago, St. Paul, Minneapolis & Omaha Ry.	* 1,988,690	* 2,261,185	* 1,610,364	* 1,874,653
Delaware & Hudson R. R.	983,739	577,413	1,693,202	1,252,439
Delaware, Lackawanna & Western R. R.	* 867,213	* 1,686,173	769,214	* 61,490
Denver & Rio Grande Western R. R.†	* 3,645,885	* 4,225,598	* 2,816,705	* 3,419,789
Elgin, Joliet & Eastern Ry.	1,860,541	666,435	2,532,569	1,302,160
Erie R. R. (including Chicago & Erie R. R.)‡	* 1,417,388	* 3,519,478	1,012,804	* 1,069,235
Grand Trunk Western R. R.	* 450,023	* 2,333,637	338,863	* 1,556,910
Great Northern Ry.	2,971,746	* 1,130,235	5,437,820	1,322,608
Illinois Central R. R.	* 2,815,083	* 2,064,325	1,434,335	2,310,401
Lehigh Valley R. R.	* 678,589	* 1,210,804	710,338	199,827
Long Island R. R.	* 947,639	* 1,098,317	* 166,096	* 313,638
Louisville & Nashville R. R.	5,058,686	2,712,276	7,958,475	5,602,989
Minneapolis, St. Paul & Sault Ste. Marie Ry.†	* 3,618,338	* 4,803,363	* 2,803,793	* 3,990,081
Missouri-Kansas-Texas Lines	* 2,253,037	* 2,626,918	* 1,464,470	* 1,742,441
Missouri Pacific R. R.†	* 8,805,887	*10,591,178	* 5,812,181	* 7,684,890
New York Central R. R.§	1,007,452	* 8,900,019	11,632,397	1,676,217
New York, Chicago & St. Louis R. R.	1,102,552	* 12,694	2,161,480	1,031,352
New York, New Haven & Hartford R. R.†	* 3,991,073	* 4,222,729	* 1,780,894	* 1,972,007
Norfolk & Western Ry.	21,122,147	14,681,140	25,275,311	18,048,179
Northern Pacific Ry.	* 2,182,821	* 5,458,400	75,756	* 3,203,146
Pennsylvania R. R.	18,522,152	8,931,881	36,628,584	26,604,234
Pere Marquette Ry.	346,474	* 999,841	1,860,731	575,098
Pittsburgh & Lake Erie R. R.	2,962,718	1,063,128	4,431,811	2,558,207
Reading Co.	3,377,282	1,925,618	5,407,803	4,000,001
St. Louis-San Francisco Ry.†	* 6,440,576	* 7,307,870	* 4,410,512	* 5,262,864
St. Louis, San Francisco & Texas Ry.	* 186,925	* 111,265	* 186,786	* 110,710
St. Louis Southwestern Lines†	* 465,001	* 1,867,923	* 40,799	* 1,455,642
Seaboard Air Line Ry.¶	* 4,110,953	* 4,518,629	* 2,548,061	* 3,082,573
Southern Ry.	1,514,277	534,254	3,866,736	2,845,945
Southern Pacific Transportation System+	* 2,327,342	* 1,243,131	2,953,768	3,992,499
Texas & Pacific Ry.	510,575	13,987	1,319,528	815,148
Union Pacific R. R. (including leased lines)	6,591,574	6,134,933	11,685,786	11,063,339
Wabash Ry.¶	* 3,050,075	* 3,963,646	* 1,609,266	* 2,531,496
Yazoo & Mississippi Valley R. R.	* 442,862	* 674,097	* 109,760	* 353,459

¶ Report of receiver or receivers.
† Report of trustee or trustees.
‡ Under trusteeship, Erie R. R. only.
ø Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.
§ Includes Boston & Albany, lessor to New York Central R. R.
+ Includes Southern Pacific Company, Texas & New Orleans R. R., and leased lines. The report contains the following information: "Figures reported above for Southern Pacific Transportation System exclude offsetting debits and credits for rent for leased roads and equipment, and bond interest, between companies included therein. Operations for 1940 of separately operated Solely Controlled Affiliated Companies (excluding results for Southern Pacific Railroad Company of Mexico), not included in above statement, resulted in a net deficit of $421,327 for the month and $3,613,412 for the period. These results include $213,768 for the month and $1,697,037 for the period, representing interest on bonds of such companies owned by Southern Pacific Company not taken into income by S. P. Co. and, therefore, not included in the 1940 income results for the System reported above. The combined results for 1940 for Southern Pacific Transportation System and separately operated Solely Controlled Affiliated Companies (excluding S. P. R. R. Co. of Mexico) amounted to a net income of $1,187,675 for the month and a net deficit of $4,243,717 for the period. Figures herein given exclude results of S. P. R. R. Co. of Mexico for the reason that policy was adopted January 1, 1940, of making no further advances to that company, it being required to conduct its operations entirely within its own resources."
* Deficit.

in the first eight months of 1939. The consolidated statement for all Class I roads and that showing net incomes or deficits of roads having annual operating incomes over $25,000,000 are given in the accompanying tables.

Two More Roads Qualify for Release from Land-Grant Rates

Secretary of Interior Harold L. Ickes has approved land-grant-claim releases submitted by the Chicago, Burlington & Quincy and the Nashville, Chattanooga & St. Louis. Those roads, like the Gulf, Mobile & Ohio which recently became the first road to qualify, may now take advantage of the land-grant-rate-repeal provisions of the Transportation Act of 1940. None of the three has outstanding any unsettled claim against the government for granted lands.

Meanwhile, Lindsay C. Warren, comptroller general of the United States, has ruled that the Transportation Act of 1940 does not confer the benefit of land-grant rates upon any traffic not previously entitled to the benefit of such rates, and that the exception in section 321 (a) of the act from the provision in said section regarding the payment of full commercial rates on government traffic does not authorize or require deductions for land-grant from charges for the transportation of property of officers of the military or naval forces traveling on official duty.

I. C. C. Organizes for Water Carrier Regulatory Work

Organizing for the additional duties which have come to it from the Transportation Act of 1940, the Interstate Commerce Commission has made a new assignment of its work and functions, effective December 2. Most of the additional duties arise in connection with the act's water-carrier regulatory provisions; and the order is designed in the main to take care of that situation.

Generally the order will leave the commission's internal organization the same as it has been since the reorganization which became effective July 1, 1939. In other words nothing has yet been done with respect to that provision of the Transportation Act of 1940 which authorizes the setting up of an appelate division. Under the present order, as it is explained in a notice from I. C. C. Secretary W. P. Bartel, there will continue to be five divisions of the commission. The notice goes on for 20 pages to give the detailed assignment of work to the various divisions; the assignments of individual commissioners; and the set-up of commission bureaus and standing committees.

Federal-Aid Highway and Crossing Work in Fiscal 1940

Federal-State cooperative highway construction resulted in the completion of 11,397 miles during the past fiscal year, Public Roads Commissioner Thomas H. MacDonald has reported to Federal Works Administrator John M. Carmody. In addition, 414 railroad-highway grade crossings were eliminated, 1,201 crossings were protected, and 87 obsolete grade separation structures were reconstructed.

The total cost was $296,932,000, of which $172,952,000 was supplied by the federal government, including authorizations for work begun in previous years, the report stated. Improvements were made to 7,612 miles of the federal-aid highway system in rural areas, 3,281 miles of rural secondary roads, and 504 miles of city streets.

Regular federal-aid authorizations for the 1940 fiscal year were $100,000,000 for highways, $15,000,000 for secondary roads, and $20,000,000 for grade crossing work. Work approved or under construction at the close of the year included 13,884 miles of highway, 412 grade crossing eliminations, 96 grade crossing reconstruction projects, and 741 crossing protection projects, at a total estimated cost of $393,992,000. At the end of the year $215,062,000 of Federal funds remained available to the states for programmed projects, the report stated.

Civil Service Jobs for Tariff Examiners

The United States Civil Service Commission has announced open competitive examinations to secure qualified examiners in freight and passenger tariffs for the Interstate Commerce Commission. The salaries range from $2,000 to $2,300 a year, less a retirement deduction of 3½ per cent. Examiners will be required to examine freight or passenger tariffs of carriers to determine whether their construction is in conformity with the law and the regulations of the Interstate Commerce Commission; and on the basis of their findings to make reports of violations and to make recommendations for securing greater simplicity in publication of tariffs. Applications must be filed with the Commission's Washington office not later than December 31 if received from states east of Colorado, and January 3, 1941, if re-

Continued on next left-hand page

BOTH PREHEATS AND INJECTS THE BOILER FEED WATER

(IT OPERATES WITH EXHAUST STEAM)

The Elesco exhaust steam injector operates in the same manner as the non-lifting live-steam injector. It is operated, however, by exhaust steam which otherwise would be wasted to the atmosphere. When no exhaust steam is available, it automatically, but temporarily, changes over to live-steam operation. The Elesco exhaust steam injector always operates on exhaust steam, when available, but operates equally well either with exhaust or live steam, insuring high delivery temperatures at all time.

Since it operates principally on exhaust steam, heat and water, otherwise wasted, are returned to the boiler . . . giving substantial savings in fuel and water or a corresponding increase in sustained boiler capacity.

The recognition of the value of the Elesco exhaust steam injector as an economy- and capacity-increasing apparatus is shown by its world-wide application . . . more than 20,000 of this type now are in service. The Elesco exhaust steam injector provides improved operation for new power. It means new life for existing underboilered locomotives.

ELESCO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave. CHICAGO
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

ceived from Colorado and states westward.

Applicants must have completed at least four years of full-time paid experience in the compilation of railroad, motor-carrier, or water-carrier freight rate or passenger fare tariffs; or, four years of experience in the general traffic department of a carrier company engaged in interstate commerce, where familiarity with freight or passenger tariffs was required; or, any combination of this experience aggregating at least 4 years. Applicants will be given a written test including practical questions relative to the duties of the position.

August Bus Revenues 1.8 Per Cent Above 1939

Class I motor carriers of passengers reported August revenues of $13,077,386 as compared with $12,851,060 in August, 1939, an increase of 1.8 per cent, according to the latest compilation prepared by the Interstate Commerce Commission's Bureau of Statistics from 144 reports representing 145 bus operators. Passengers carried increased 12.8 per cent, from 12,739,931 to 14,368,838.

The breakdown by regions of the bus revenue and traffic figures, which exclude data on charter or special party service, is given in the accompanying table.

	Passenger revenue		Passengers carried	
	August 1940	August 1939	August 1940	August 1939
New England Region	$747,753	$766,225	1,173,955	1,077,977
Middle Atlantic Region	2,184,562	2,333,507	3,158,219	2,901,144
Central Region	2,554,173	2,420,690	2,939,328	2,207,110
Southern Region	2,681,321	2,399,137	3,069,458	2,675,435
Northwestern Region	557,597	570,012	390,836	382,978
Mid-Western Region	1,109,040	1,091,873	599,020	579,418
Southwestern Region	1,419,801	1,399,009	1,312,634	1,296,750
Rocky Mountain Region	176,376	161,238	108,218	105,073
Pacific Region	1,646,763	1,709,369	1,617,170	1,514,046

$86,000,000 Worth of Rails and Wheels Produced Last Year

Rails, rail joints and fastenings, and car and locomotive wheels made last year in steel works and rolling mills in the United States had a total value at the factory in excess of 86 million dollars, according to a preliminary report issued by W. L. Austin, director of the U. S. Census Bureau. Rails, including re-rolled or renewed, reached a production last year of 1,175,243 long tons, compared with 1,440,324 in 1937, preliminary returns of the 1939 manufactures census show. Their factory value was $48,161,910, against $55,070,528 in 1937.

Rail joints and fastenings, including tie plates, increased in tonnage from 459,966 to 461,982, with a rise in value from $23,750,579 to $25,159,082. Car and locomotive wheels, rolled and forged, were valued at $13,128,768 last year, against $15,525,551 in 1937, with tonnage down from 172,291 to 142,396. Reports to be issued later will cover foundry production of chilled-iron railway wheels, and the manufacture of railroad cars and locomotives.

The bulletin on steel works and rolling mills covers 253 establishments, with products having a total value of $2,720,019,564 last year. They gave employment to 368,904 wage earners in manufacturing operations, with a payroll of $569,724,280. Salaried personnel numbered 34,520, receiving $88,554,227. The reports are compiled under the supervision of T. J. Fitzgerald, chief statistician for the Division of Manufactures.

St. Lawrence Power Project a Step Toward Seaway, Says Roosevelt

Nothing in the present national-defense plans for the construction of a power dam at the International Rapids section of the St. Lawrence river "can in any way cause delay or increase the cost of the navigation project," but, on the contrary, the dam's construction "will be in fact the first major step forward in making it possible for ocean-going cargo vessels to navigate that section of the river," according to assurances given recently by President Roosevelt to Representative Pittenger, Republican of Minnesota. An exchange of letters between Mr. Pittenger and the President was inserted into the appendix to the November 25 issue of the Congressional Record by Representative Culkin, Republican of New York.

Mr. Pittenger wrote to the President on October 16, expressing concern over various reports which he interpreted as indicating that the national-defense power facilities would in some way prejudice the proposed seaway project. Replying on November 2, Mr. Roosevelt outlined briefly the general plan of the hydroelectric facilities contemplated, adding that upon their completion a canal and locks could "readily be built, thus completing that link in the seaway."

"In view of the importance of the power to war production," the President also said, "I trust that the construction of the project will not be long delayed and that the hopes of the people who have long anticipated deep water navigation and cheap power from this undertaking will be on the way to realizations."

New Haven to Expand Snow Train Service

With the official opening of its snow train season on December 27, the New York, New Haven & Hartford, one of the country's pioneers in popularizing winter sports through special train services, will augment its snow train schedules to include a greater number of New England resorts and a new special ten-day round-trip fare to New Hampshire and Vermont ski centers.

The weekly "Ski Meister" will this season give service to additional points, including Randolph, Vt., Northfield, Montpelier, Barre, Essex-Burlington junction and St. Albans, in addition to White River junction, Vt., Waterbury, and Littleton, N. H. The "Eastern Slopes Express" this season will add Laconia, N. H., Meredith, Madison and Mountainview to its schedule which heretofore included Plymouth, North Conway, and Intervale. The new special ten-day round-trip fares will be effective on both of these trains, which are scheduled to make their initial run out of New York on December 27. Both trains leave Grand Central terminal every Friday at 8:30 p. m. and are due back in New York early the following Monday morning.

The road will also operate one-day snow-trains to Berkshire points starting January 5 and operating every Sunday through March 30. Connecting bus services at Pittsfield, Mass., will serve trails and slopes of Yokun Seat Mountain and Mt. Greylock. Another one-day "snow express" will operate to Great Barrington, Mass., South Lee and Pittsfield, while a third train, to operate when traffic requires, will run to Great Barrington and South Lee.

772 Killed in 1939 Motor Carrier Accidents

Accidents involving common and contract carrier motor vehicles subject to the Interstate Commerce Commission's jurisdiction brought death to 772 persons, injuries to 6,371 and caused property damage of $2,956,536 during 1939, according to an analysis of that year's accident reports made public this week by the Bureau of Motor Carriers. This represents an increase of 20.2 per cent above the number of 1938 fatalities, the analysis for that year having been reviewed in the *Railway Age* of January 27, 1940, page 231.

With respect to comparisons with previous years, the present analysis' introductory statement pointed out that "no certain comparisons" can be drawn, because the number of reporting carriers has increased each year, "reflecting the continuing work of the commission in obtaining compliance with its requirements."

The aforementioned 1939 fatalities and injuries resulted from 4,766 accidents, involving 1,368 different carriers. Buses were involved in 29.1 per cent of the accidents, 27.6 per cent of the fatalities and 49.4 per cent of the injuries. More than 70 per cent of the vehicles involved in the truck accidents were reported as two-unit vehicles, such as tractor-semi-trailer or tuck-trailer. Eighty-one truck drivers were asleep at the time of the 1939 accidents in which they were involved, as compared with 75 such cases in 1938. Only four bus drivers were reported to have been asleep at the time of their 1939 accidents; but the comparable 1938 figure was two.

No 1939 bus accident resulted from collision with a railroad train, but that was the cause of 64 of last year's truck accidents, including three which resulted in fire. The Bureau says that further study will be required before the lack of bus accidents at grade crossings can be attributed to the rule requiring buses to stop at such crossings.

Like the previous ones the present analysis (a document of 127 mimeographed sheets) breaks down the 1939 accident data by various "greatest frequency of occurrence" classifications. The summarization in that connection shows, among other things, that December was the 1939 month of greatest frequency in both bus and truck accidents; Sunday the day of the week for bus accidents and Saturday for

Continued on third right-hand page

truck accidents; and the hour of greatest frequency for bus accidents was 6 to 7 p. m., for truck accidents, 11 p. m. to midnight. Also, the greater number of both bus and truck accidents occurred on straightway stretches in open country with road conditions "good" and weather "clear." The speed at the time of the impact reported most frequently for bus accidents was 10 to 14 m. p. h.; for truck accidents, 20 to 24 m. p. h.

Freight Car Loading

Carloading figures for the week ended November 23 had not been made public at the time this issue went to press.

Loading of revenue freight for the week ended November 16 totaled 745,295 cars, according to the Association of American Railroads. This was a decrease of 33,023 cars or 4.2 per cent below the preceding week, a decrease of 21,692 cars or 2.8 per cent below the corresponding week last year, but an increase of 88,229 cars or 13.4 per cent above the comparable 1938 week.

The summary as compiled by the A. A. R.'s Car Service Division follows:

Revenue Freight Car Loadings

For Week Ended Saturday, November 16

Districts	1940	1939	1938
Eastern	154,617	161,695	138,628
Allegheny	158,849	166,654	120,511
Pocahontas	49,291	52,903	48,846
Southern	108,302	105,619	96,499
Northwestern ..	98,429	108,427	83,272
Central Western.	120,723	119,549	116,553
Southwestern ..	55,084	52,140	52,757
Total Western Districts	274,236	280,116	252,582
Total All Roads.	745,295	766,987	657,066
Commodities			
Grain and grain products	29,999	36,897	36,117
Live stock	17,973	15,904	18,057
Coal	148,453	146,956	133,188
Coke	11,847	12,087	7,085
Forest products.	35,814	35,612	28,556
Ore	37,842	45,635	12,849
Merchandise l.c.l..	150,273	158,028	153,991
Miscellaneous ..	313,094	315,868	267,223
November 16 ..	745,295	766,987	657,066
November 9 ...	778,318	781,588	636,446
November 2 ...	794,797	801,108	672,967
October 26 ...	837,651	829,358	708,590
October 19 ...	813,909	856,289	705,284
Cumulative Total, 46 weeks	32,173,689	29,991,328	26,948,266

In Canada.—Carloadings for the week ended November 16 totaled 55,594 cars, as compared with 59,492 cars for the previous week, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
Nov. 16, 1940	55,594	25,774
Nov. 9, 1940	59,492	26,749
Nov. 2, 1940	59,740	27,513
Nov. 18, 1939	58,370	24,764
Cumulative Totals for Canada:		
Nov. 16, 1940	2,471,506	1,135,713
Nov. 18, 1939	2,253,083	985,653
Nov. 19, 1938	2,181,645	945,654

Wheeler Committee Criticizes Wabash Accounting

Senators Wheeler and Truman from the Senate interstate commerce subcommittee investigating railroad finance have submitted to the Senate another report, part 23 of Report No. 25, which is entitled "Wabash Railway Company Income in 1930," and which makes the charge that that company's accounting "was out of step with the railroad's actual financial condition prior to the present receivership, which began in 1931."

"In an attempt to show adequate earnings in its statements," says a press release accompanying the report, "the management cut expenditures for upkeep and maintenance of the railroad's property to the bone; in the course of this retrenchment, some 2,500 workers were laid off. Ostensibly $2,550,000 was 'saved' over 1929 by such means. In reality, this neglect of the railroad's property diminished the security behind Wabash obligations, to the ultimate disadvantage of its security holders."

The report then charges that these "economies" were not sufficient to enable the road to meet the income standards fixed for "legal" investments, and the directors turned to the road's subsidiaries and declared dividends payable to the Wabash without considering the interests of the subsidiaries.

After asserting that the total of such subsidiary dividends declared in 1930 was $1,758,819, the report alleges that the subsidiaries could not meet the dividends, but paid the Wabash approximately $125,000 in cash and some $520,000 by bookkeeping entries. More than $1,000,000 was never paid at all, according to the report.

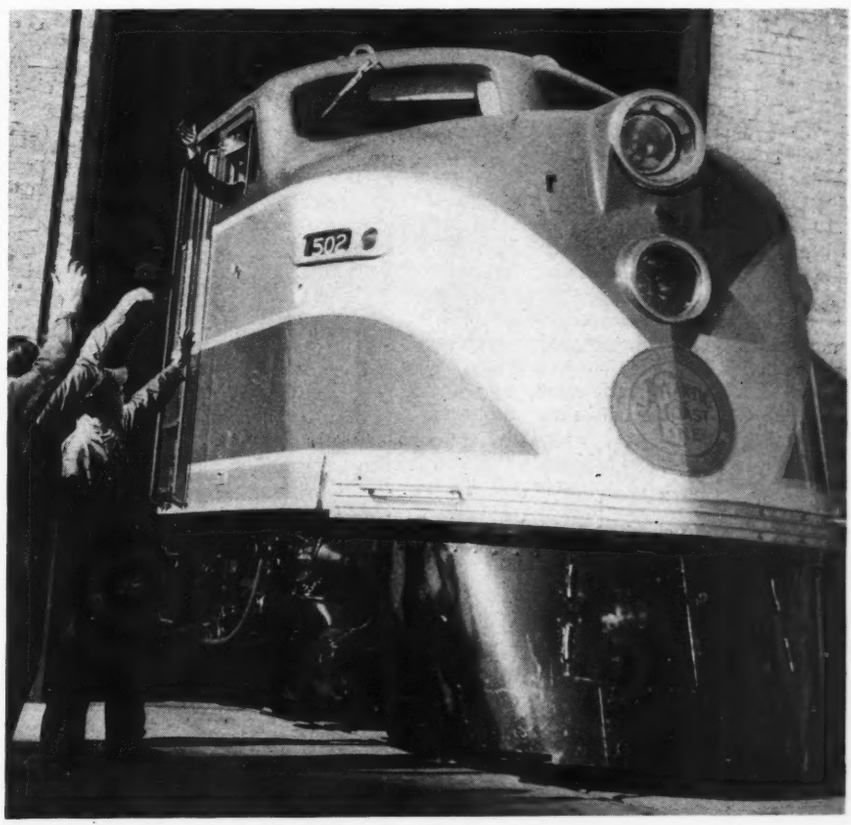
"The Wabash management," concludes the report, "promptly entered in its income account the entire amount of subsidiary dividends declared, although more than $1,000,000 was never received. This was in complete disregard of Interstate Commerce Commission regulations. By such means the Wabash was able to present its securities as safe investments, and to keep them on the 'legal list' to the date of receivership." It is the belief of the senators that legislation is needed to prevent the repetition of the alleged abuses which are outlined in the report.

"Labor Protection" in Abandonments Argued in Court

Whether the Interstate Commerce Commission has power to attach "labor-protection" provisions to its approval of railroad abandonment applications may rest upon the distinction, if any, between the legal meanings of the phrases "public convenience and necessity" and "public interest," according to oral arguments in the Pacific Electric case, heard this week before a three-judge statutory court sitting in the Court of Appeals for the District of Columbia. The former phrase is used in the Interstate Commerce Act's provisions with respect to abandonments where the commission, as in the present case, contends that it lacks power to prescribe conditions for the protection of employees affected; the "public interest" phrase appears in the consolidation sections under which the commission in the Rock Island case successfully asserted powers which have since been given to it specifically by the Transportation Act of 1940.

As noted in the *Railway Age* of November 23, page 804, the present court pro-

* * *



Diesel Off the Assembly Line

Here is the first of 18 new Diesel-electric passenger locomotives recently ordered by the Atlantic Coast Line from the Electro-Motive Corporation, coming out of the plant at La Grange, Ill. Rushed through on an assembly line basis it was completed in 60 days in 24-hour shifts. Officers of Electro-Motive expect to make delivery of the entire order before heavy winter travel on the A. C. L. sets in.

Continued on next left-hand page

ceeding arises out of the appeal of the Railway Labor Executives' Association and the Brotherhood of Railroad Trainmen from the commission's decision in Finance Docket No. 12643 wherein the Pacific Electric has been authorized (without "labor-protection" conditions) to abandon some 88 miles of line in the Los Angeles, Calif., area. On November 14 the commission entered an amended order to permit the abandonments to become effective, but to reserve jurisdiction over the "labor-protection" angle pending final determination of that question by the courts. Meanwhile the commission adheres to its original finding that it does not have the power to impose "labor-protection" provisions.

The three-judge court by which the case is being heard is comprised of Chief Justice Groner and Associate Justice Vinson of the Court of Appeals for the District of Columbia, and Chief Justice Wheat of the United States District Court for the District of Columbia. Arguing for the labor plaintiffs was Willard H. McEwen of Toledo, Ohio; Edward M. Reidy, assistant chief counsel for the I. C. C. appeared for the commission. The Pacific Electric was represented by its vice-president and chief counsel—Frank Karr—while a brief argument was made by S. R. Brittingham, Jr., special assistant to the attorney general of the United States.

As Mr. McEwen put it, labor did not ask that the abandonment be delayed; but merely that the order be held open so that the I. C. C. may "correct its error." Such is the effect of the aforementioned November 14 action of the commission; the order insofar as it permitted the abandonments became effective November 17. Labor, Mr. McEwen went on, makes no contention that the I. C. C. acted in an arbitrary manner; its sole concern is the question of law as to the authority which it thinks the I. C. C. has to impose "labor-protection" provisions. There is no request on the part of labor that the court impose such conditions, or that it tell the I. C. C. that the latter must impose them. There is merely the prayer that the court tell the commission that the latter has the power and duty to consider the effect of abandonments on employees, and to exercise it administrative discretion accordingly.

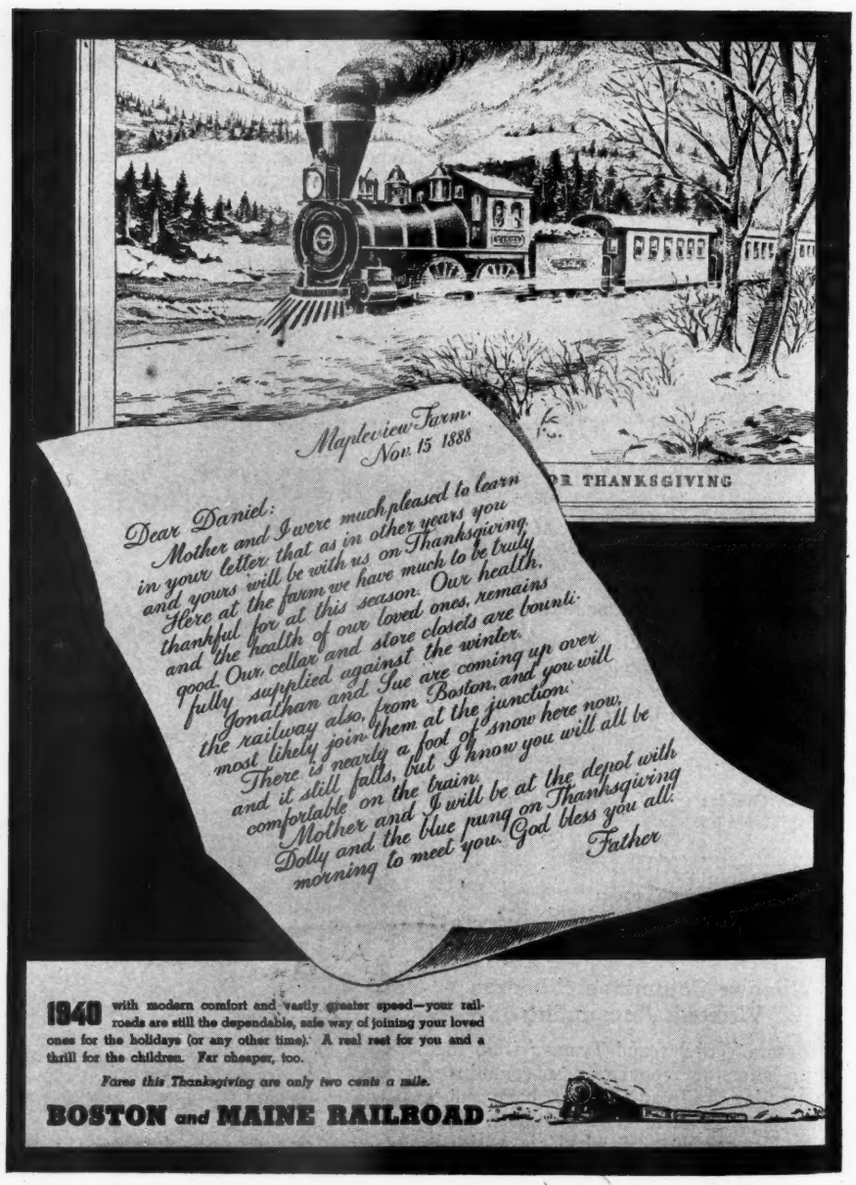
Mr. McEwen relied principally upon the Supreme Court's decision in the aforementioned Rock Island case where the commission's action in attaching "labor-protection" conditions to its approval of a merger application was upheld. The law with respect to abandonments, the labor counsel contended, is not different from the then-existing consolidation provisions on which the commission relied "more or less with its fingers crossed." The whole history of the controversy over the I. C. C.'s authority to impose the "labor-protection" conditions in consolidation cases, Mr. McEwen continued, has been the struggle between the contention on the one hand that the interests of the employees are private interests, and, on the other hand, the idea that such interests can be considered part of the public interest. He added that I. C. C. disclaimers of jurisdiction in abandonment cases have been the "same private-interests" arguments that were "repudiated" by the Supreme Court in the Rock Island case.

Anticipating that opposing counsel would contend that there is a distinction between the "public convenience and necessity" test called for in abandonment cases and the "public interest" test required in consolidation cases, Mr. McEwen denied that any basis exists for such a distinction. In support of such denial he cited cases which he interpreted as showing the failure of the Supreme Court to recognize the alleged distinction. Concluding, the labor counsel stated that he was not contending that the I. C. C. must impose "labor-protection" conditions in all abandonment cases; he was arguing that it had the power where the facts warranted such action.

Assistant Chief Counsel Reidy of the I. C. C. noted at the outset of his argument that the proceeding is a complaint about something the commission has failed to do—not about any affirmative action of the regulatory body. Thus he thought it at least indicated that the I. C. C. is not trying to stretch its power, as many other administrative agencies are now being accused of doing. Mr. Reidy thought that the words "public interest" in the consolidation sections had a "higher" meaning than the "public convenience and necessity" phrase in the abandonment sections. But he did not rest his case on a mere difference in verbiage. He thought the "fundamental" difference between the two sections was important, and suggested that if the commission is required to consider the effect of abandonments on labor it might also be asked to consider the effect upon shippers or other interests. If the Supreme Court should hold that the I. C. C. has a duty to impose "labor-protection" conditions in abandonment cases, Mr. Reidy predicted that the ultimate result would be to read the abandonment sections out of the act—there would be no abandonment applications.

Next the I. C. C. counsel pointed out how the commission hinted around about "labor-protection" conditions in many con-

* * *


Maplevieu Farm
Nov. 15 1888
Dear Daniel:
Mother and I were much pleased to learn in your letter that as in other years you and yours will be with us on Thanksgiving. Here at the farm we have much to be truly thankful for at this season. Our health, and the health of our loved ones, remains good. Our cellar and store closets are bountifully supplied against the winter. Jonathan and Sue are coming up over the railway also, from Boston, and you will most likely join them at the junction. There is nearly a foot of snow here now, and it still falls, but I know you will all be comfortable on the train. Mother and I will be at the depot with Dolly and the blue pung on Thanksgiving morning to meet you. God bless you all.
Father
1940 with modern comfort and vastly greater speed—your railroads are still the dependable, safe way of joining your loved ones for the holidays (or any other time). A real rest for you and a thrill for the children. Far cheaper, too.
Fares this Thanksgiving are only two cents a mile.
BOSTON and MAINE RAILROAD

Large Posters of This Design Have Been Placed in Stations by the Boston & Maine to Help Boost Holiday-Time Travel. Smaller Versions Are Being Placed as Advertisements in Newspapers Along the Line

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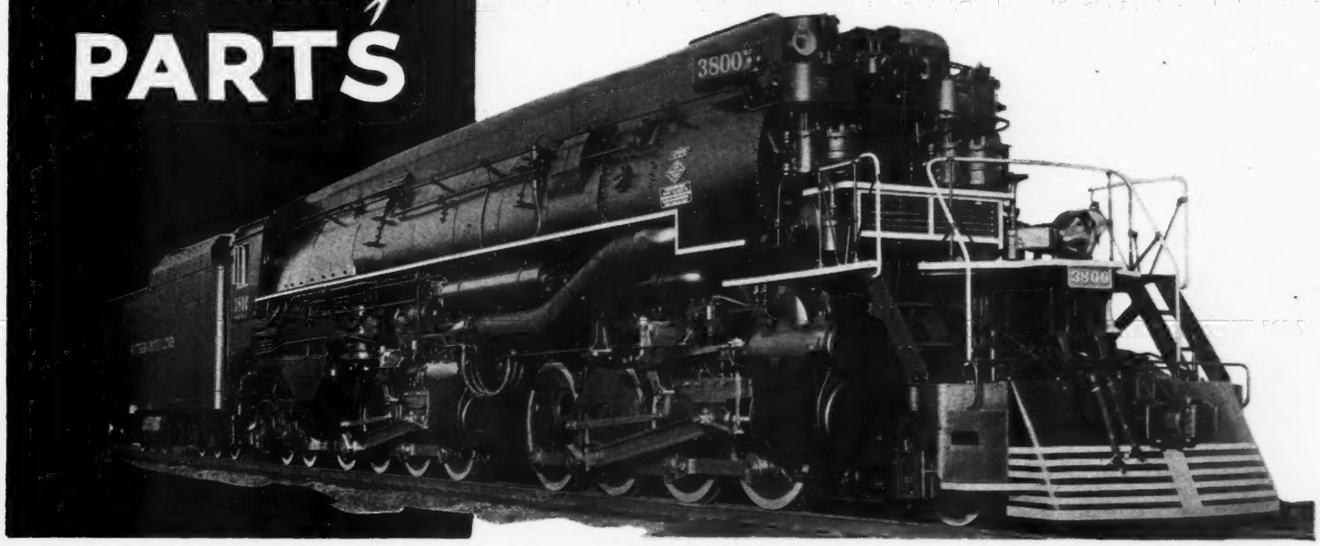

IT is not at all unusual for HUNT-SPILLER *Air Furnace* GUN IRON parts to stick with the locomotive through several class III shoppings before renewals are necessary.

Even after the first class V repairs it is difficult to find evidence of wear on H S G I parts.

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solidation cases before taking the plunge in the Rock Island case; but he added that it has consistently disclaimed the authority in abandonment cases.

Coming to what he called his "most significant" point, Mr. Reidy traced the legislative history of the Transportation Act of 1940, showing that the idea of "labor-protection" conditions in abandonment cases came into one of the versions of the so-called Harrington "labor-protection" amendment. He went on to point out how that version of the amendment was rejected for the present law which confines the specific "labor-protection" provisions to consolidations, mergers, etc. Also, Mr. Reidy thought it significant that Representative Harrington introduced a separate bill (not yet acted upon by the House committee) to cover the abandonment situations, indicating that the sponsor of "labor-protection" provisions did not consider that the present law covers the whole field.

Vice-President Karr of the Pacific Electric endorsed the Reidy argument, and went on to tell the court something about the abandonments involved. Noting how the anticipated annual saving in payroll was put at $300,000 in the commission's report, Mr. Karr stated that actually the displaced workers would lose only about $9,000. This is because many of them have been given other assignments, or had been laid off as a result of reductions in service prior to the filing of the abandonment application. Only 12 men are now involved, Mr. Karr said.

Mr. Brittingham, the assistant to the attorney general, raised a question as to the court's jurisdiction in the case, where there was no prayer that an order of the I. C. C. be annulled, set aside or suspended. He had never heard of a three-judge court remanding a case to the I. C. C. In rebuttal Mr. McEwen asserted that labor had acquiesced in the consummation of the abandonments only to give the Pacific Electric relief from the unprofitable operations; it would ask for a setting aside of the whole order if the jurisdictional question were pressed.

October Truck Loadings at 1940 Peak

The volume of revenue freight transported by motor truck in October increased 15 per cent over that moved in September and reached a new peak for 1940, according to tonnage reports compiled by the American Trucking Associations. The October tonnage was 16.4 per cent above the October, 1939, figure.

Comparable reports were received from 157 motor carriers in 38 states. The reporting carriers transported an aggregate of 984,313 tons in October, as against 855,712 tons in September and 845,277 tons in October of last year. The A. T. A. index figure, computed on the basis of the 1936 monthly average as 100, stood at 142.59 for October. In September, the index figure was 141.77; and in October, 1939, it was 151.26.

Approximately 67 per cent of all the freight transported during the month was reported by carriers of "general merchandise." The volume of general merchandise carried increased 14 per cent over September, and 13.7 per cent over October of last year. Transporters of petroleum products, accounting for slightly more than 14 per cent of the total tonnage reported, showed a decrease of 1.1 per cent in October, as compared with September, but their volume represented an increase of 11.7 per cent over October of last year. Movement of new automobiles and trucks, constituting about six per cent of the total tonnage, increased 119 per cent over September, and 59 per cent over October, 1939. The increase over September was attributed to heavy movement of 1941 models. Iron and steel products represented about six per cent of the total reported tonnage. The volume of these commodities increased 28 per cent over September and 40.3 per cent over October, 1939. Six per cent of the total tonnage reported was miscellaneous commodities, including tobacco, textile products, bottles, building materials, coal, cement and household goods. Tonnage in this class increased 4.7 per cent over September, and 8.7 per cent over October of last year.

F. B. I. Offers Aid in Combating Sabotage

As a guide for industrial executives in perfecting their protective facilities against sabotage and espionage, the Federal Bureau of Investigation, Washington, D. C., has prepared a comprehensive booklet entitled "Suggestions for Protection of Industrial Facilities" for distribution to all responsible executives who request it. The suggestions contained in the booklet are equally applicable to railroads and manufacturing plants —since defense products can be attacked

Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.

October 31, 1940

Associated Business Papers, Inc.
369 Lexington Avenue
New York, New York

Gentlemen:

In the war-torn world of today America must strengthen her internal and external fortifications if she is to survive the menace of totalitarianism. The protection of our industrial facilities to insure the uninterrupted production of goods and material is essential to our national defense. Based upon this premise the FBI in September of 1939, in accordance with the request of the War and Navy Departments, inaugurated a program to survey the protective facilities of manufacturing establishments having large contracts to provide the government with defense materials. The purpose of the surveys is to submit recommendations to bolster the physical protective facilities of the manufacturing plants for the prevention of sabotage and espionage activities.

The first and final responsibility to give speed and strength to our national defense program by protection against espionage and sabotage lies with industry itself. Only through the energy and alertness of its officials and workers will the full measure of preparedness be attained.

In line with this plant survey program and to assist industrial concerns and municipalities in establishing effective protection against possibilities of acts of espionage and sabotage the FBI prepared a comprehensive booklet entitled "Suggestions for Protection of Industrial Facilities." Because of its confidential nature this booklet is limited in distribution to heads of duly constituted law enforcement agencies and executive officials of industrial concerns manufacturing defense materials under government contracts.

In response to the many questions as to how to obtain this publication I wish to state that a copy will be furnished an industrial concern upon the written request of an executive official.

Sincerely yours,

J. Edgar Hoover

John Edgar Hoover
Director

just as effectively while being shipped as during production.

A perusal of the booklet indicates that it will probably prove very helpful to all officers charged with the protection of railroad, as well as industrial, property.

RRs. File Brief on Truck Sizes

(*Continued from page* 837)

payers and have contributed substantial amounts, both directly and indirectly, toward highway improvement; (b) constitute the backbone of transportation service both in time of peace and in time of war; (c) must not be weakened by the loss of needed traffic through the extension of public aid to other agencies of transportation not capable of fully and adequately serving the public.

4. The states are in a better position to determine statutory regulation of sizes and weight and enforce it more effectively than the federal government, because the state (a) owns the highways; (b) has the financial responsibility for the construction of a large part of the state highways, for the construction of all other roads and for all maintenance costs; (c) has police control of all highways and streets.

5. Great variations exist as to highway facilities in the different states in respect to their strength, width, curves, grades and bridges, and the states have as great variations in their ability to pay for and furnish highway facilities.

6. Uniformity in sizes and weight of motor vehicles on higher standards than now exist has, therefore, no basis in uniformity of facilities or in the capacity to furnish them among the states.

7. Available data indicate that an insignificantly small percentage of total vehicles use the highways today with sizes and loads up to the maximum now permissible and hence, there can be no public commercial need for raising the limits set by the states.

8. The burden of debt already incurred for highway improvements, the amount annually paid by motor vehicles and others for such improvements and the amount stated by state highway officials to be the "immediate need" for existing traffic constitute so great an aggregate of funds as to be staggering and there is no known source from which additional funds can now be drawn.

9. The question of existing statutory restrictions of sizes and weights of motor vehicles being a barrier to trade between the states has no pertinency to this case for the reason that no showing is or can be made that the state statutory limits are unreasonable and discriminatory in character.

10. The question of sizes and weights in relation to national defense likewise is not pertinent to this case so long as there is no showing by military authorities or otherwise that state statutory limits interfere with the preparedness program or with the adequate protection of the United States in time of emergency.

11. And, for these cogent reasons the commission should find that there is no need for federal regulation of sizes and weight of motor vehicles moving in interstate commerce.

The statement's tables and exhibits contain data and other material in support of the argument, while the appendices set forth discussions of legal considerations and reviews of two of the aforementioned preliminary reports which were prepared by the I. C. C. staff. The reviews are of Report No. 4—Bridge and Road Facilities in Relation to Vehicle Characteristics; and Report No. 5—Legal Aspects of Federal Regulation of Sizes and Weights of Motor Vehicles. In connection with the latter there is an argument, with citations, in support of the proposition that "The Federal Government Lacks the Power to Supersede State Regulation of the Sizes and Weight of Motor Vehicles." As noted in the *Railway Age* of November 2, page 658, the authors of Report No. 5 had reached the conclusion, among others, that "Congress possesses power under the commerce clause of the Constitution to enact legislation providing for reasonable regulation."

Construction

N. Y.'s 148 Crossing Eliminations in 1941 Will Cost $53,000,000

The New York State Public Service Commission has announced a 1941 program of 66 projects involving the elimination of 148 grade crossings, at an estimated cost of $53,588,000. This includes 32 new projects involving 60 grade crossings to be considered for elimination during 1941 at a total estimated cost of $11,191,500, and 34 projects involving 88 crossings at estimated elimination cost of $42,396,500 carried over from last year's program, in which no final determination has been made.

Included in the new projects on the 1941 program are the elimination of eight crossings of the Delaware & Hudson in the city of Plattsburg at estimated cost of $2,000,000; 11 crossings of the Erie in Middletown at estimated cost of $1,500,000; 16 crossings of the Long Island in Nassau county at estimated cost of $3,200,000 and 10 crossings of the Long Island in various parts of Suffolk county at estimated cost of $1,920,000.

The projects carried over to the new program from last year include elimination of the crossings of the New York Central and the Erie in the city of Niagara Falls and the town of Niagara at estimated cost of $12,500,000 and of 5 crossings of the New York Central in the city of Oneida at estimated cost of $3,200,000. A total of 16 crossings in the city of Saratoga Springs and Saratoga county are carried over at estimated cost of $7,000,000; 12 crossings in Nassau county at estimated cost of $5,700,000; 14 crossings in the county of Corning at estimated cost of $5,000,000 and 10 crossings in the city of Kingston at estimated cost of $4,373,000.

Hearings to determine the new crossings to be considered during 1941 were concluded in Albany on October 31.

BESSEMER & LAKE ERIE. — The Pennsylvania Public Utility Commission has approved plans calling for removal of the present bridge carrying company's tracks above State highway route No. 73 in Mercer Township, Butler County, and construction of a new bridge and highway approaches at estimated total cost of $125,000.

CHESAPEAKE & OHIO.—Division 4 of the Interstate Commerce Commission has extended from December 31, 1940, to December 31, 1942, the time within which this company may complete the construction of its lines in Raleigh County, W. Va. At the same time Division 4 also extended from December 31, 1940, to December 31, 1942, the time within which the Levisa River may complete the construction of a new line in Pike County, Kentucky.

CHICAGO, ROCK ISLAND & PACIFIC.—Contracts have been awarded for the construction of a new bridge, a channel change of Bailey's creek and a grade revision at Sheffield, Iowa. The contract for the construction of the bridge, amounting to approximately $20,000, has been awarded the Gould Construction Company, Davenport, Iowa. The bridge will consist of ten 28-ft. I-beam ballasted-deck spans on steel pile piers with bank block abutments supported on steel H-beam piles, replacing an 18-panel timber trestle. The grade line of the new bridge will be approximately 3½ ft. higher than the old grade line. The contract for the grading for the grade raise and the channel change, which will amount to about 10,000 cu. yd. and 3,000 cu. yd., respectively, was awarded Steve Jones & Son, Des Moines, Iowa.

LOUISVILLE & NASHVILLE.—A contract has been awarded the Roberts and Schaefer Company, Chicago, for construction of a reinforced concrete coal and sand plant of 300 tons capacity and a mechanical cinder handling plant at Etowah, Tenn. Total cost of the improvements, including some track changes and other work, will be about $40,000.

NEW YORK CENTRAL.—The New York State Public Service Commission has approved plans for elimination of company's grade crossings in the city of Herkimer, N. Y., at estimated cost of $3,320,000. The commission also approved plans of the railroad to replace 11,915 ft. of 105-lb. rail and track fastenings by the same quantity of 127-lb. rail and fastenings at estimated cost of $6,345 and to enlarge the existing passenger station by 803 sq. ft. at estimated cost of $11,868. These latter improvements are not considered an essential part of the eliminations and their entire cost will consequently be borne by the railroad.

ST. LOUIS SOUTHWESTERN.—A contract has been awarded Teleweld, Inc., Chicago, for building up rail ends by the electric weld process between Lewisville, Ark., and Shreveport, La., at a total cost of approximately $20,000.

ST. LOUIS SOUTHWESTERN.—A contract has been awarded W. H. Nichols & Co., Dallas, Tex., for driving poles 8 to 12 ft. in length to stabilize the roadbed at various points on the Cotton Belt, at a total cost of approximately $35,000.

Continued on second left-hand page

Stellar Per

99% Availability

SIX B.&O. DIESELS OPERATE 3,441,916 MILES IN PASSENGER SERVICE

SIX 3600 Hp. EMC Diesel passenger locomotives entered service on the Baltimore and Ohio—two in May and June, 1937, two in January, 1938, two in June, 1938. Up to June 30, 1940, these locomotives have operated 3,441,916 miles with an average availability of 95.5 per cent. Diesel locomotive No. 56 on the Capitol Limited, which operated every day for an entire year without missing a trip, has to its credit 515,485 miles with 99.3 per cent availability.

Typical of EMC Diesel performance, these records are being made in fast passenger service without excessive top speeds but with high average speed consistent with safety, passenger comfort, and minimum wear on rolling stock and track. No other type of motive power can equal this performance.

ELECTRO-MOTIVE CORPORATION

B&O

GM DIESEL POWER

General Motors 2-Cycle Diesel Engine

Raily

GM DIESEL POWER

NORTHWE

THE two 4,000 h... and the "NOR... first entered ser... Each locomotive... these locomotive... missing a trip... This Diesel pa... the two "Jim... handle 10 loa... averaged...

After the D... as 1...

99.23% Availability

Six Rockets Make Records

The Rock Island's fleet of six smartly styled stainless steel streamlined "Rockets" has established an enviable performance record with the utmost in safety, comfort and economy.

The six "Rocket" locomotives, built by Electro-Motive Corporation and each powered by one General Motors 1200 horsepower two-cycle Diesel engine, entered service in the fall of 1937. The records shown are from the date of installation to January 1, 1940.

2,986,317 Total Miles Operated

99.23% Average Availability

$.08 Average Maintenance Cost per Mile

Entered Service in Fall of 1937

112,299 Average Assigned Miles per Month

28 MONTHS Average Time in Service

Rock Island ROCKETS

GM DIESEL POWER

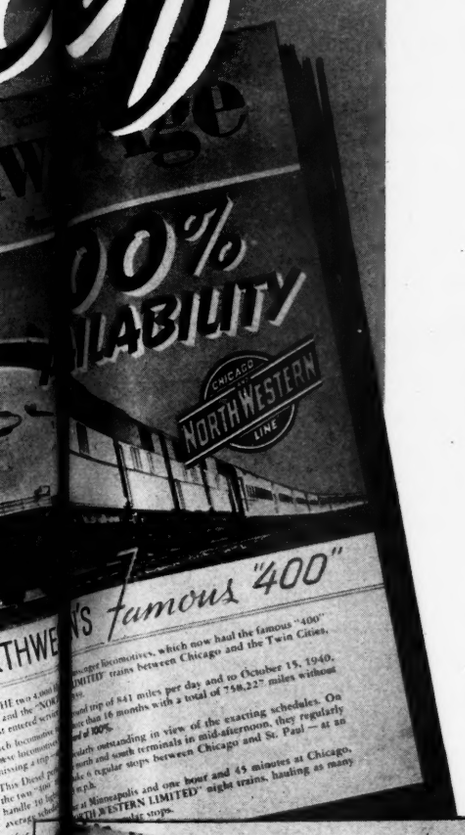
ROCK ISLAND

DENVER

Rock Island

ELECTRO-MOTIVE CORPORATION

erformances



BACK of the name **"EMC DIESEL"** stands irrefutable evidence of superior performance. Not by one locomotive but many—not on one railroad but many.

EMC Diesel locomotives, operating in the world's fastest schedules and with highest mileages per day and year, continue to establish records for low operating costs, dependability and high availability — far above any other type of motive power.

On the Burlington fifteen EMC Diesel-powered trains operated over 10,000,000 miles with the high **availability of 97.6%.**

On the Rock Island thirteen EMC Diesel-powered Rocket locomotives operated 4,534,938 miles with an **availability record of 98.7%.**

On the Baltimore & Ohio six original EMC 3600 Hp. Diesel locomotives operated 3,441,916 miles with an **availability of 95.5%.** Locomotive No. 56 operated an entire year without missing a trip and made 515,485 miles with **99.3% availability.**

On the Chicago & Northwestern two EMC 4000 Hp. Diesel locomotives operated 758,227 miles without missing a trip in over 18 months—an **availability record of 100%.**

ELECTRO-MOTIVE CORPORATION
SUBSIDIARY OF GENERAL MOTORS LA GRANGE, ILLINOIS, U. S. A.

GM
GENERAL MOTORS
DIESEL POWER

ELECTRO-MOTIVE CORPORATION

Equipment and Supplies

L. & N. Spends $7,500,000 for Freight Cars

The Louisville & Nashville has placed orders for 3,150 freight cars at estimated cost of $7,527,271, allocating 1,400 50-ton all steel hopper cars to the American Car & Foundry Co. and 1,600 50-ton all steel hopper cars, 50 70-ton gondola cars and 100 end-door box cars to the Pullman-Standard Car Manufacturing Company. Inquiry for this equipment was reported in the *Railway Age* of November 16, page 776.

Bessemer & Lake Erie Spends $5,000,000

The Bessemer & Lake Erie has awarded contracts for the construction of 1,000 freight cars and 7 locomotives amounting to approximately $5,000,000 as follows: 650 90-ton hopper cars to the Pullman-Standard Car Manufacturing Company; 300 50-ton box cars to the Greenville Steel Car Company and 50 50-ton flat cars to Magor Car Corporation; five Texas-type locomotives to the Baldwin Locomotive Works and two 0-8-0 type switching locomotives to the American Locomotive Company. This is in addition to contracts amounting to approximately $475,000 for 100 box cars now on order with American Car & Foundry Co. and for 20 steel cabooses with Greenville Steel Car Company. Inquiry for freight cars by this company was reported in the *Railway Age* of November 16, page 776.

LOCOMOTIVES

THE NORFOLK & WESTERN has placed orders for five 4-8-4 type passenger locomotives with company shops in Roanoke, Va.

THE KEWAUNEE, GREEN BAY & WESTERN has ordered one 660-hp. Diesel-electric switching locomotive from the American Locomotive Company.

THE NEW YORK, NEW HAVEN & HARTFORD has ordered one 380-hp. Diesel-electric switching locomotive from the General Electric Company.

THE SOUTHERN has ordered four Diesel-electric streamlined passenger locomotives of 4,000-hp. each, placing two with the Electro-Motive Corporation and two with the American Locomotive Company.

THE NORTHERN PACIFIC has ordered eight 4-8-4 type locomotives from the Baldwin Locomotive Works and six 4-6-6-4 type from the American Locomotive Co. Authorization for the purchase of these locomotives was reported in the *Railway Age* of October 5.

THE GREAT NORTHERN has ordered two 2,700-hp. Diesel-electric locomotives from the Electro-Motive Corporation. This railroad will soon begin the conversion of 15 steam locomotives at its shops at Superior, Wis., and Hillyard, Wash., at an approximate cost of $1,500,000. Conversion plans provide for almost complete rebuilding of the power units and when work is completed the locomotives will be assigned to freight service on the Kalispell division in the mountainous section of Montana.

FREIGHT CARS

THE NEW YORK CENTRAL has on order 200 52-ft. 6-in. all-steel flat cars of 70 tons' capacity with Despatch Shops, Inc.

THE BERWIND-WHITE COAL MINING COMPANY of Philadelphia has on order 50 31-ft. 3-in. all-steel hopper cars of 50 tons' capacity with company shops.

THE PITTSBURGH & WEST VIRGINIA has received delivery of 20 all-steel cabooses built in company shops.

THE DETROIT, TOLEDO & IRONTON has ordered 300 50-ton drop-end gondola cars from the Greenville Steel Car Company.

THE WABASH CAR & EQUIPMENT CO. OF ST. LOUIS has ordered five 70-ton covered hopper cars from the American Car & Foundry Co.

THE UNION PACIFIC is contemplating construction in company shops of 100, 200 or 300 50-ft. light-weight automobile cars of 50 tons' capacity.

THE NORFOLK & WESTERN has ordered 30 38-ft. all-steel, covered hopper cars of 70 tons' capacity from company shops in Roanoke, Va.

THE COLORADO & WYOMING has ordered 15 65-ft. 6-in. all steel gondola cars of 70 tons' capacity from the Pullman-Standard Car Manufacturing Company.

THE CUDAHY CAR LINES, division of Cudahy Packing Company, has ordered 50 35-ft. 4½-in. steel underframe refrigerator cars of 40 tons' capacity from company shops.

THE PANAMA RAILROAD has ordered 35 50-ft. steel underframe flat cars of 50 tons' capacity, 30 50-ft. steel sheathed box cars of 50 tons' capacity and 15 gondola cars from the Magor Car Corp.

THE NORTHERN PACIFIC has received delivery of 30 29-ft. 3-in. all-steel covered hopper cars of 70 tons' capacity from the General American Transportation Corporation.

PASSENGER CARS

THE ATLANTA & WEST POINT-WESTERN RAILWAY OF ALABAMA are receiving delivery of two light-weight, all-steel baggage-express cars from the American Car & Foundry Co. Inquiry for this equipment was reported in the *Railway Age* of May 18, page 875.

IRON AND STEEL

THE MISSOURI PACIFIC has ordered 28,034 tons of rail for its Texas lines.

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered 35,000 tons of rails, placing 21,900 tons with the Carnegie-Illinois Steel Corp., 10,000 tons with the Inland Steel Company and 3,100 tons with the Colorado Fuel & Iron Company. Authorization to buy this equipment was reported in the *Railway Age* of October 19, page 569.

SIGNALING

THE BALDWIN LOCOMOTIVE WORKS has placed an order with the Union Switch & Signal Co. for five complete sets of two-indication cab signal equipment for Boston & Maine steam locomotives for operation in cab signal territory between Boston, Mass., and Greenfield.

THE ELECTRO-MOTIVE CORPORATION has placed an order with the Union Switch & Signal Co. covering fourteen sets of three-indication continuous cab signal and speed control equipment for application to Diesel locomotives now being built for the Atlantic Coast Line. This equipment is designed for operation in automatic train control territory on the Richmond, Fredericksburg & Potomac between Richmond, Va., and Washington, D. C.

Supply Trade

Jay M. Reibel, formerly with McCann-Erickson, has been appointed advertising manager of the **American Car & Foundry Co.**

Shirley, Olcott & Nichols have been appointed sales representatives for government work by the **Whiting Corporation,** Harvey, Ill. They have offices at 202 Mills Building, Washington, D. C.

Paul Keller has been appointed Cleveland district manager in charge of the sale of Aristoloy alloy steels by the **Copperweld Steel Company** with offices in 415 Swetland Building, Cleveland, Ohio. Mr. Keller was previously connected with the Mid-States Steel & Wire Co. and the Bethlehem Steel Company.

James F. Fitzgerald has been appointed special representative on railway welding requirements by the **C. D. Hicks Company** of St. Louis, Mo., which company has been designated sales agent to railways operating in the St. Louis area on Universal arc and spot welders, accessories, rods and electrodes manufactured and for sale by the Universal Power Corporation of Cleveland, Ohio.

Foreman H. Craton has been appointed section head of the industrial haulage section of the **General Electric Company's** transportation department at Erie, Pa. Mr. Craton has been with General Electric since 1924, where he has spent about four years on the design of railway motors and control and also been identified with important work on the New York Central, Cleveland Union Terminal, and New York, New Haven & Hartford electrifications, and more recently on industrial and railway applications of Diesel-electric locomotives. He is a mechanical engineer, graduate of Syracuse University, a member of the American Institute of Electrical Engineers, past chairman of the Erie section, and has presented several papers before the national body.

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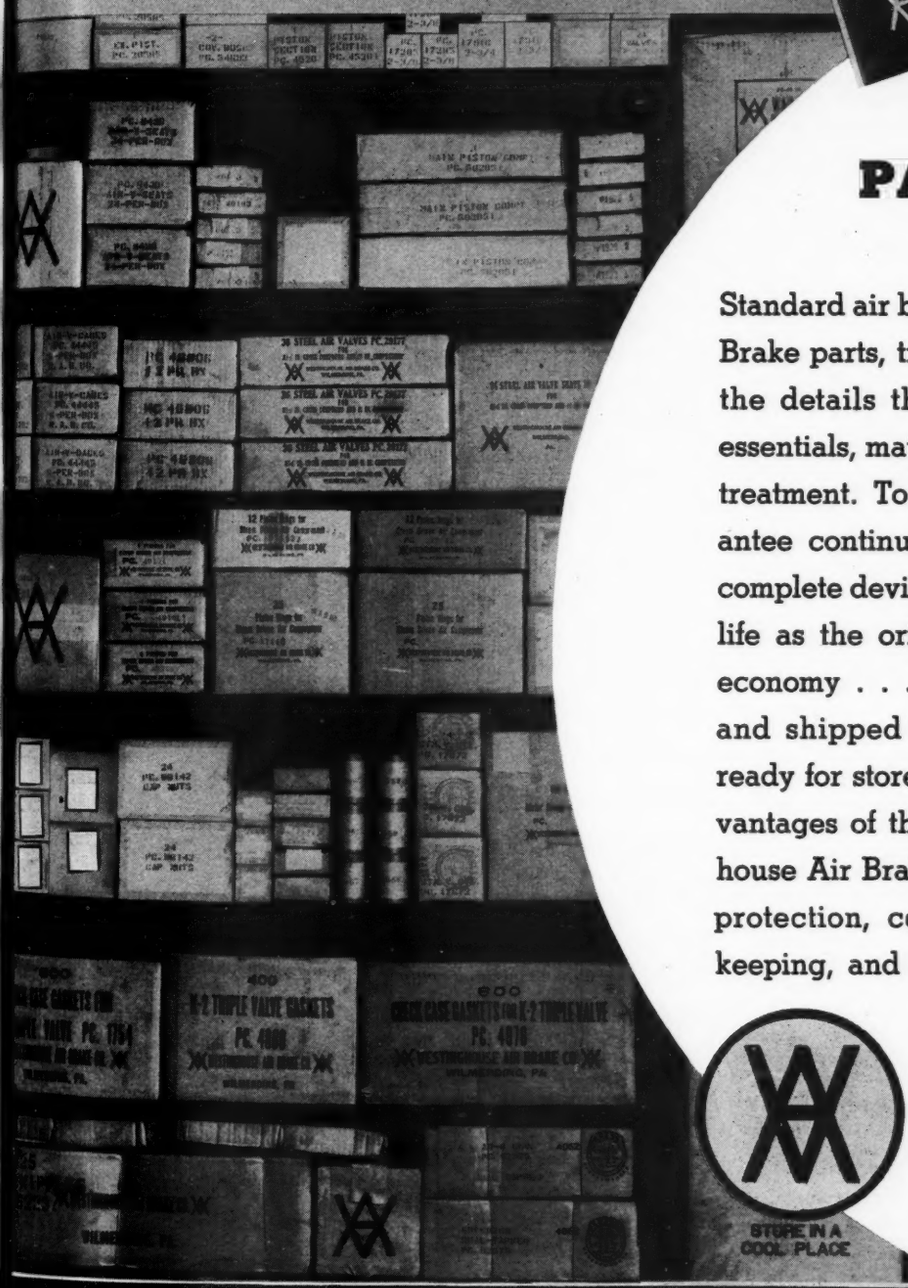
TWO-WAY *Savings* for the... Purchases and Stores Department...



Standard PARTS—PACKAGED

Standard air brake repair parts—Westinghouse Air Brake parts, trade-marked—are exact duplicates of the details they replace. The same engineering essentials, materials, workmanship, dimensions, and treatment. To use these, and these alone, will guarantee continued high grade performance of the complete device, the same long, trouble-free service life as the original. Herein lies true maintenance economy . . . These standard parts are packaged and shipped in standard cartons, trade-marked, ready for storeroom stock. The well-recognized advantages of this procedure, in which the Westinghouse Air Brake Company pioneered, are adequate protection, convenient storage, simplified stock keeping, and reduced handling costs. » » »

STORE IN A COOL PLACE

You can make two-way savings by purchasing and storing these Westinghouse standard packaged repair parts . . . . . Order them from our Publication No. 2820, which lists complete information—piece numbers and standard quantities. ' '

WESTINGHOUSE AIR BRAKE COMPANY

WILMERDING, PENNSYLVANIA

Financial

ATCHISON, TOPEKA & SANTA FE.—*Equipment Trust Certificates.* — A syndicate headed by Harriman Ripley & Co., New York, on November 27 offered $10,000,000 of 1¼ per cent equipment trust certificates, Series D, of this road. The certificates mature in ten equal annual installments, December 5, 1941 to 1950, and are offered at prices to yield from 0.20 to 1.50. The syndicate won the issue on a bid of 100.5437, representing an interest cost to the road of approximately 1.15, a record low for this type of financing.

BALTIMORE & OHIO.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $4,750,000 of its 1⅝ per cent equipment trust certificates, maturing in 10 equal annual installments of $475,000 on December 1 in each of the years from 1941 to 1950, inclusive. The issue has been sold at 100.155 to a group composed of the First Boston Corporation, F. S. Moseley & Co., Keen, Taylor & Co., and R. W. Pressprich & Co., making the average annual cost to the company approximately 1.595 per cent.

ERIE.—*Reorganization.*—Division 4 of the Interstate Commerce Commission has denied various petitions of parties in this case for rehearing, reconsideration, modification, oral argument, and for other relief with respect to the commission's order fixing maximum limits of final allowances for compensation for services rendered and expenses incurred in connection with this company's reorganization proceedings under section 77 of the Bankruptcy Act.

FREDERICKSBURG & NORTHERN.—*Notes.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to extend from December 28, 1936, to December 28, 1941, the time of payment of $226,915 of five per cent secured promisory notes.

LOUISVILLE & NASHVILLE. — *Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $6,770,000 of equipment trust certificates, maturing in equal annual installments of $677,000 on December 15 of each of the years from 1941 to 1950, inclusive. The proceeds will constitute part of the purchase price of new equipment costing a total of $7,527,271 and consisting of 3,000 50-ton coal cars, 100 50-ton steel-sheathed, double-door, end-door box cars, and 50 70-ton all-steel, drop end, mill gondola cars.

LOUISVILLE & NASHVILLE.—*Equipment Trust Certificates.*—This road asks for bids on or before December 2 on $6,770,000 equipment trust certificates, Series I, due in one to ten years, to cover not exceeding 90 per cent of the cost of new equipment totaling $7,522,223.

PERE MARQUETTE. — *Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $2,220,000 of its two per cent serial equipment trust certificates, maturing in 10 equal annual installments of $222,000 on November 15 in each of the years from 1941 to 1950, inclusive. The issue has been sold at 101.425 to a group composed of Salomon Brothers & Hutzler, Dick & Merle-Smith, and Stroud & Co., Inc., making the average annual cost to the company approximately 1.727 per cent.

SEABOARD AIR LINE-SOUTHERN-ATLANTIC COAST LINE.—*Acquisition by the Baltimore Steam Packet.* — The Baltimore Steam Packet, a wholly-owned subsidiary of the Seaboard Air Line, has asked the Interstate Commerce Commission for authority to acquire the properties of Chesapeake Steamship, a jointly owned property of the Southern and the Atlantic Coast Line. Both companies operate freight and passenger carrying boats between Baltimore, Md., and the Hampton Roads ports in Virginia. The acquisition will be effected through the issuance by the Baltimore company of $1,500,000 of 50-year debentures, which will carry the following interest rates: Six per cent for the first 15 years, 5½ per cent for the next succeeding four years, five per cent for the next succeeding four years, and 4½ per cent thereafter until maturity.

The net effect of the acquisition will be, according to the petition to the commission, that the Baltimore company will own and operate all of the properties of the two existing water carriers; one-half of the Baltimore company's capital stock and $1,500,000 of its debentures will be owned by the Seaboard and held by the corporate trustee of its refunding mortgage and the remaining one-half of the stock will be owned by the Chesapeake company, the stock of which is and will continue to be owned two-thirds by the Southern and one-third by the Atlantic Coast Line. The agreement also provides that the Southern and the Atlantic Coast Line are to be given an option to purchase $750,000 of the debentures at a fixed price.

At the same time these companies have asked the commission for authority to hold the above mentioned stock interests in the Baltimore company.

SKANEATELES SHORT LINE.—*Acquisition and Securities.*—The Skaneateles Short Line Corporation has asked the Interstate Commerce Commission for authority to acquire the property of the Skaneateles Short Line, consisting of a line from Skaneateles, N. Y., to Skaneateles Junction, five miles. To finance the purchase the new company has asked authority from the commission to issue 200 shares of common stock and a bond mortgage for $15,000.

SOUTHERN PACIFIC. — *Abandonment by the Pacific Electric.*—The Pacific Electric, a subsidiary of the Southern Pacific, has been authorized by Division 4 of the Interstate Commerce Commission to abandon its so-called Daisy Avenue line extending from Long Beach, Calif., to Los Cerritos, 2.8 miles.

SPRINGFIELD SOUTHERN. — *Acquisition.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to purchase and operate that portion of the line formerly owned by the Chicago, Springfield & St. Louis extending from the junction with the Baltimore & Ohio in Springfield, Ill., to Curran, 7.7 miles.

TEXAS ELECTRIC. — *Abandonment.*—This company would be permitted to abandon its Corsicana branch, extending from Dallas, Tex., to Corsicana, 51.8 miles, if Division 4 of the Interstate Commerce Commission adopts a proposed report of its Examiner R. Romero.

WESTERN MARYLAND. — *Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Oakmont, W. Va., to the end of the line at Emoryville, 2.3 miles.

WESTERN PACIFIC.—*Extension of Trustees' Certificates and R. F. C. Loan.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to extend from December 1, 1940, to December 1, 1941, the date of maturity of $10,000,000 of trustees' certificates, to bear interest during the extended period at a rate of four per cent per year. At the same time Division 4 approved the extension for a similar period by the Reconstruction Finance Corporation of the time of repayment of a loan of $10,000,000, which is secured by the trustees' certificates.

WHEELING & LAKE ERIE.—*Equipment Trust Certificates.*—This company has been authorized to assume liability for $1,550,000 of one per cent equipment trust certificates, maturing in 10 equal annual installments of $155,000 on November 15 in each of the years from 1941 to 1950, inclusive. The issue has been sold at 98.870 to a group composed of the Mellon Securities Corporation, Lazard Freres & Co., Kidder, Peabody & Co., and E. W. Clark & Co., making the average annual cost to the company approximately 1.22 per cent.

Average Prices of Stocks and Bonds

	Nov. 26	Last week	Last year
Average price of 20 representative railway stocks..	30.90	31.16	33.68
Average price of 20 representative railway bonds..	60.43	60.96	59.15

Dividends Declared

Alabama Great Southern.—Ordinary, $6.00, irregular; 6 Per Cent Participating Preferred, $6.00, irregular, both payable December 23 to holders of record November 30.

Atchison, Topeka & Santa Fe.—$1.00, payable December 27 to holders of record December 2; 5 Per Cent Preferred, $2.50, semi-annually, payable February 1 to holders of record December 27.

Atlantic Coast Line (year end).—$1.00, payable December 19 to holders of record November 27.

Boston & Albany.—$2.25, payable December 31 to holders of record November 30.

Delaware & Bound Brook.—$2.00, quarterly, payable December 20 to holders of record November 18.

Erie & Pittsburgh.—7 Per Cent Guaranteed, 87½c, quarterly; Guaranteed Betterment, 80c, quarterly, both payable December 10 to holders of record November 30.

Kansas, Oklahoma & Gulf.—Series A, 6 Per Cent Cumulative Preferred, $3.00, semi-annually; Series B, 6 Per Cent Non-Cumulative Preferred, $3.00, semi-annually; Series C, 6 Per Cent Non-Cumulative Preferred, $3.00, semi-annually, all payable December 2 to holders of record November 22.

Pittsburgh, Bessemer & Lake Erie.—6 Per Cent Preferred, $1.50, semi-annually, payable December 2 to holders of record November 15.

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Meet Miss Lou

OF ILLINOIS CENTRAL

Tapered Roller TIMKEN BEARING EQUIPPED

"Miss Lou" is one of the two new, up-to-the-minute rail cars owned by Illinois Central R. R. The other—Miss Lou's twin—has been christened "Illini". Both cars are completely equipped with TIMKEN Roller Bearings. That will make them popular with everybody. Illinois Central patrons will get fast, comfortable rides. The mechanical department will show savings on operating and maintenance expense. The accounting department will record pleasing profits. Miles of Smiles all along the line!

Illinois Central R. R. also operates two of the leading Timken Bearing Equipped streamlined trains—Green Diamond and City of Miami. Two existing type 4-8-2 steam locomotives recently were converted from friction bearings to TIMKEN Bearings in engine trucks, driving axles and trailer trucks. Illinois Central looks ahead!

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

Manufacturers of TIMKEN Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; TIMKEN Alloy Steels and Carbon and Alloy Seamless Tubing; and TIMKEN Rock Bits.

TIMKEN
TAPERED ROLLER BEARINGS

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

Edwin G. Wagner, whose promotion to treasurer for the trustee of the Missouri Pacific Lines, with headquarters at St. Louis, Mo., was announced in the *Railway Age* of November 9, was born at Louisville, Ky., on June 1, 1894, and attended Holy Name School at Louisville. He entered railway service on November 15, 1926, as chief statistician in the office of the chairman of the board of the Missouri Pacific at New York. From April, 1926, to December, 1938, he served as assistant secretary and assistant treasurer for various units of the Missouri Pacific system, with headquarters at New York until June, 1930, when he was transferred to Cleveland, Ohio, remaining there until February, 1938, when he was transferred to St. Louis, Mo. In December, 1938, Mr. Wagner was appointed assistant secretary and assistant treasurer of the Gulf Coast

Edwin G. Wagner

Lines (Missouri Pacific Lines), with headquarters at Houston, Tex. His appointment as treasurer for the trustee was effective November 1.

OPERATING

R. Patterson, trainmaster on the Gulf, Mobile & Ohio at New Albany, Miss., has been transferred to Jackson, Miss., and **A. J. Dancy,** conductor, has been promoted to trainmaster at New Albany, succeeding Mr. Patterson.

Lloyd F. Donald, general superintendent on the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Milwaukee, Wis., has been promoted to assistant general manager of the Eastern lines, with headquarters at Chicago, succeeding **Alva J. Elder,** whose death on November 6 was announced in the *Railway Age* of November 16. **L. K. Sorensen,** superintendent at Tacoma, Wash., has been advanced to general superintendent, with headquarters at Milwaukee, relieving Mr. Donald, and **W. C. Givens,** superintendent at La Crosse, Wis., has been transferred to Tacoma replacing Mr. Sorensen. **H. C. Munson,** superintendent at Savanna, Ill.,

Lloyd F. Donald

has been transferred to La Crosse, succeeding Mr. Givens, and **W. J. Whalen,** superintendent at Terre Haute, Ind., has been transferred to Savanna relieving Mr. Munson. **O. A. Beerman,** superintendent at Ottumwa, Iowa, has been transferred to Terre Haute replacing Mr. Whalen and **F. R. Doud,** assistant superintendent at La Crosse, has been promoted to superintendent at Ottumwa succeeding Mr. Beerman. **M. P. Ayars,** trainmaster at Madison, Wis., has been advanced to assistant superintendent, with headquarters at Montevideo, Minn., and **J. D. Shea,** trainmaster at Montevideo, has been transferred to Aberdeen, S. D., relieving **R. W. Graves,** who has been transferred to Madison replacing Mr. Ayars. **J. H. Hennessy,** trainmaster at Green Bay, Wis., has been transferred to La Crosse and **A. J. Farnham,** assistant trainmaster at Milwaukee, has been promoted to trainmaster at Green Bay, succeeding Mr. Hennessy. The above appointments are effective December 1.

Mr. Donald was born at Savanna, Ill., on April 4, 1894, and entered railway service in June, 1912, as a roundhouse clerk on the Milwaukee at Savanna. During the next few years he served as a roadmaster's clerk at Elgin, Ill., as trainmaster's timekeeper at Savanna, and as a clerk in the office of the superintendent at Milwaukee, Wis. In 1917, he was advanced to chief clerk to the superintendent at Milwaukee, and he was later transferred to Green Bay, Wis., and Sioux City, Iowa. In 1921, he was appointed chief clerk to the assistant general manager in Chicago, and in 1922, he was promoted to trainmaster at Chicago, later being transferred successively to Sioux City, Ia., St. Paul, Minn., and Montevideo, Minn. Mr. Donald was promoted to assistant superintendent at Terre Haute, Ind., on November 1, 1926, and in 1928 he was transferred to Chicago. On January 1, 1929, he was promoted to superintendent at Terre Haute, and on November 1, 1930, he was transferred to the Dubuque and Illinois division, with headquarters at Savanna. Mr. Donald was transferred to the La Crosse and River division, with headquarters at La Crosse, on July 14, 1935, and on October 14, 1939, he was advanced to general superintendent, with headquarters at Milwaukee, the position he held until his recent promotion.

D. B. Cronin, inspector of terminals on the staff of the general manager of the St. Loius-San Francisco, at Springfield, Mo., has been promoted to acting superintendent of terminals, with headquarters at Birmingham, Ala., succeeding **E. A. Teed,** who has been granted a leave of absence because of illness. **R. O. Davis,** terminal trainmaster at St. Louis, Mo., has been advanced to superintendent of terminals, with the same headquarters, and the position of terminal trainmaster at that point has been abolished.

TRAFFIC

R. N. Sinclair, commercial agent on the Gulf, Mobile & Ohio at New Orleans, La., has been promoted to assistant general passenger agent, a newly created position, with headquarters at St. Louis, Mo.

Fred G. Platt, special traffic representative of the Delaware, Lackawanna & Western at New York, will retire voluntarily on December 1, after 53 years of continuous service.

A. E. Morris, whose appointment as traffic manager of the Midland Valley, the Kansas, Oklahoma & Gulf and the Oklahoma City-Ada-Atoka, with headquarters at Muskogee, Okla., was announced in the *Railway Age* of November 23, was born at Buena Vista, Tenn., on February 16, 1890. He entered railway service on October 1, 1905, as an agent on the Nashville, Chattanooga & St. Louis at Hatchie, Tenn. In 1907, he left the service to attend Hall Moody College at Martin, Tenn., serving during summer vacations as a copy telegraph operator for the superintendent and chief dispatcher of the N. C. & St. L. at Paducah, Ky. On June 1, 1910, he went with the Louisville & Nashville as agent at Whitlock, Tenn., and on December 18, 1911, he went with the Chicago, Rock Island & Pacific as agent at Perry, Ark. On September 13, 1912, he was promoted to claim clerk and chief clerk to the commercial agent at Little Rock, Ark., and on January 16, 1915, he was advanced to chief clerk to the district freight agent at Oklahoma City,

A. E. Morris

Okla. From March 16, 1917, to February 29, 1928, with the exception of 16 months in the U. S. Army, Mr. Morris served as

general freight and passenger agent for the Oklahoma Railway, with headquarters at Oklahoma City. On the latter date he went with the Texas Electric as traffic manager, with headquarters at Dallas, Tex., the position he held until his recent appointment.

ENGINEERING AND SIGNALING

Byram S. Dickerson, assistant engineer on the Indiana division of the New York Central (Big Four), with headquarters at Indianapolis, Ind., has been promoted to division engineer of the Peoria & Eastern (subsidiary of the New York Central), with the same headquarters, succeeding to the duties of **H. E. Woodburn,** assistant division engineer of the P. & E., whose promotion to division engineer of the Illinois division of the New York Central (Big Four) was announced in the *Railway Age* of November 16.

F. W. Creedle, assistant engineer in the office of the engineer of maintenance of the Chicago & North Western at Chicago, has been promoted to division engineer, with headquarters at Sioux City, Iowa, succeeding **L. R. Lamport,** who has been transferred to the Galena division, with headquarters at Chicago, relieving **E. L. Mead,** who will retire on December 1. **P. V. Thelander,** assistant engineer on the Galena division, has been promoted to assistant engineer in the office of the engineer of maintenance, with headquarters as before at Chicago, replacing Mr. Creedle.

MECHANICAL

T. F. Lake has been appointed master mechanic of the Nevada Northern, with headquarters at East Ely, Nev., succeeding **Charles Nesbitt,** deceased.

W. W. Lyons, general foreman on the Atchison, Topeka & Santa Fe at Belen, N. M., has been promoted to master mechanic of the Slaton division of the Panhandle & Santa Fe, with headquarters at Slaton, Tex., succeeding **L. E. Fletcher,** who will retire on December 1.

OBITUARY

J. A. Allen, division storekeeper on the Chicago, Burlington & Quincy, at Galesburg, Ill., died suddenly of a cerebral hemorrhage on November 16.

John Otto, general storekeeper of the Elgin, Joliet & Eastern, with headquarters at Joliet, Ill., died on November 24, in the St. Joseph's hospital in that city after an illness of several weeks. Mr. Otto was born at Blossburgh, N. M., on April 8, 1886, and entered railway service on March 1, 1901, as a store helper on the E. J. & E. at Joliet. On August 1, 1903, he became a clerk in the stores department and on June 1, 1910, he was promoted to chief clerk. Mr. Otto was advanced to general storekeeper, with headquarters as before at Joliet, on October 18, 1931, the position he held until his death.

Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 132 Monthly Reports of revenues and expenses representing 136 Class I Steam Railways
(Switching and Terminal Companies Not Included)

FOR THE MONTH OF SEPTEMBER, 1940 AND 1939

Item	United States		Eastern District		Southern District		Western District	
	1940	1939	1940	1939	1940	1939	1940	1939
Miles of road operated at close of month	233,708	233,373	57,354	57,520	44,304	44,437	131,050	131,416
Revenues:								
Freight	$316,124,934	$314,400,213	$130,593,935	$126,751,598	$59,773,361	$61,815,918	$125,757,638	$125,832,697
Passenger	36,093,829	37,145,859	20,009,353	21,235,940	4,369,941	3,944,943	11,714,535	11,964,976
Mail	8,022,812	7,935,837	3,087,155	3,080,758	1,319,822	1,325,516	3,615,835	3,529,563
Express	5,342,068	5,037,810	2,473,413	2,481,001	873,201	681,229	1,995,454	1,875,580
All other operating revenues	17,019,708	16,598,161	8,098,189	7,694,779	1,993,501	2,018,114	6,928,018	6,885,268
Railway operating revenues	382,603,351	381,117,880	164,262,045	161,244,076	68,329,826	69,785,720	150,011,480	150,088,084
Expenses:								
Maintenance of way and structures	45,725,943	42,916,549	18,350,512	15,911,051	8,026,511	7,039,580	19,348,920	19,965,918
Maintenance of equipment	68,399,202	64,824,135	31,488,015	28,977,729	13,113,810	12,381,866	23,797,377	23,464,540
Traffic	8,659,623	8,736,247	3,150,770	3,245,842	1,662,016	1,680,046	3,846,837	3,810,359
Transportation—Rail line	123,359,340	120,811,960	56,173,414	53,612,887	19,844,284	19,654,114	47,341,642	47,544,959
Transportation—Water line	550,021	435,397	.....	.....	.....	.....	550,021	435,397
Miscellaneous operations	3,263,262	3,285,380	1,447,358	1,406,775	336,069	308,883	1,479,835	1,569,722
General	10,695,334	10,558,427	4,165,301	4,162,200	2,042,724	2,013,799	4,487,309	4,382,428
Transportation for investment—Cr.	473,883	401,156	104,095	76,721	95,085	62,553	274,703	261,882
Railway operating expenses	260,178,842	251,166,939	114,671,275	107,239,763	44,930,329	43,015,735	100,577,238	100,911,441
Net revenue from railway operations	122,424,509	129,950,941	49,590,770	54,004,313	23,399,497	26,769,985	49,434,242	49,176,643
Railway tax accruals	38,030,388	32,629,664	15,830,923	13,664,126	9,279,947	7,197,812	12,919,518	11,767,726
Railway operating income	84,394,121	97,321,277	33,759,847	40,340,187	14,119,550	19,572,173	36,514,724	37,408,917
Equipment rents—Dr. balance	7,673,634	7,910,099	3,895,360	3,622,747	†451,244	†375,631	4,229,518	4,662,983
Joint facility rent—Dr. balance	2,527,250	2,881,556	1,348,364	1,562,840	261,473	267,362	917,413	1,051,354
Net railway operating income	74,193,237	86,529,622	28,516,123	35,154,600	14,309,321	19,680,442	31,367,793	31,694,580
Ratio of expenses to revenues (per cent)	68.0	65.9	69.8	66.5	65.8	61.6	67.0	67.2
Depreciation included in operating expenses	17,272,918	16,866,173	7,521,930	7,412,789	3,459,624	3,321,379	6,291,364	6,132,005
Pay roll taxes	9,825,294	9,029,117	4,339,442	3,884,720	1,692,709	1,541,132	3,793,143	3,603,265
All other taxes	28,205,094	23,600,547	11,491,481	9,779,406	7,587,238	5,656,680	9,126,375	8,164,461

FOR NINE MONTHS ENDED WITH SEPTEMBER, 1940 AND 1939

Miles of road operated at close of month*	232,851	233,531	57,378	57,582	44,310	44,474	131,163	131,475
Revenues:								
Freight	$2,565,425,357	$2,309,286,525	$1,089,139,768	$943,157,078	$519,195,001	$463,184,347	$957,090,588	$902,945,100
Passenger	311,719,145	316,443,993	168,475,875	175,463,219	44,862,196	40,750,966	98,381,074	100,229,808
Mail	72,583,755	71,378,153	27,807,518	27,427,743	12,380,789	12,287,469	32,395,448	31,662,941
Express	39,549,939	39,715,873	16,608,397	16,178,331	7,725,366	8,324,366	15,216,176	15,213,176
All other operating revenues	136,576,979	125,255,307	66,960,096	60,495,263	17,050,234	15,500,661	52,566,649	49,259,383
Railway operating revenues	3,125,855,175	2,862,079,851	1,368,991,654	1,222,721,634	601,213,586	540,047,809	1,155,649,935	1,099,310,408
Expenses:								
Maintenance of way and structures	373,801,358	349,278,830	144,502,837	129,846,820	69,440,201	61,568,932	159,858,320	157,863,078
Maintenance of equipment	605,347,142	555,282,524	271,606,294	239,568,944	119,606,112	107,153,425	214,134,736	208,560,155
Traffic	80,783,034	79,509,302	29,220,807	28,790,436	15,490,026	14,986,485	36,072,201	35,732,381
Transportation—Rail line	1,098,463,966	1,032,517,191	503,629,213	462,458,847	187,277,578	173,542,935	407,557,175	396,515,409
Transportation—Water line	4,893,244	3,660,815	.....	.....	.....	.....	4,893,244	3,660,815
Miscellaneous operations	29,076,421	28,295,415	12,713,308	12,045,000	4,030,338	3,479,534	12,332,775	12,770,881
General	98,029,003	95,977,200	39,092,338	38,129,067	18,902,353	18,236,695	40,034,312	39,611,438
Transportation for investment—Cr.	3,225,547	3,026,456	569,816	390,296	585,666	503,711	2,070,065	2,132,449
Railway operating expenses	2,287,168,621	2,141,494,821	1,000,194,981	910,448,818	414,160,942	378,464,295	872,812,698	852,581,708
Net revenue from railway operations	838,686,554	720,585,030	368,796,673	312,272,816	187,052,644	161,583,514	282,837,237	246,728,700
Railway tax accruals	301,447,366	265,970,092	129,000,631	113,412,970	67,947,194	54,382,175	104,499,541	98,174,947
Railway operating income	537,239,188	454,614,938	239,796,042	198,859,846	119,105,450	107,201,339	178,337,696	148,553,753
Equipment rents—Dr. balance	72,128,859	72,305,789	35,039,618	31,858,868	2,101,754	3,732,534	34,987,487	36,714,387
Joint facility rent—Dr. balance	24,676,776	26,592,341	13,708,933	14,425,367	2,494,369	2,890,501	8,473,474	9,276,473
Net railway operating income	440,433,553	355,716,808	191,047,491	152,575,611	114,509,327	100,578,304	134,876,735	102,562,893
Ratio of expenses to revenues (per cent)	73.2	74.8	73.1	74.5	68.9	70.1	75.5	77.6
Depreciation included in operating expenses	153,775,442	151,483,534	66,812,922	66,330,421	31,017,881	29,927,136	55,944,639	55,225,977
Pay roll taxes	86,197,928	77,443,904	37,820,576	33,059,633	15,424,595	13,602,509	32,952,757	30,781,762
All other taxes	215,249,438	188,526,188	91,180,055	80,353,337	52,522,599	40,779,666	71,546,784	67,393,185

* Represents an average of the mileage reported at the close of each month within the period.
† Decrease, deficit or other reverse items.
Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

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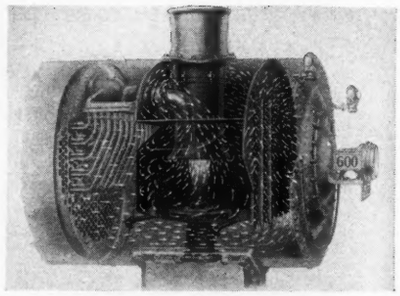
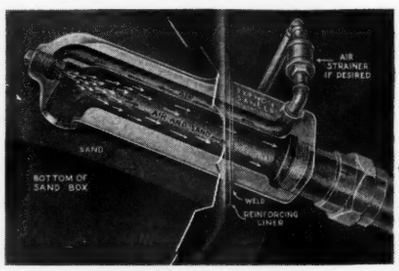
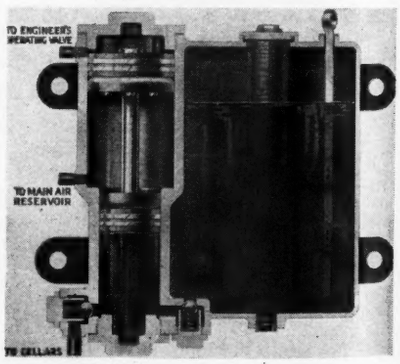


CYCLONE FRONT ENDS



SYPHON SANDERS



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